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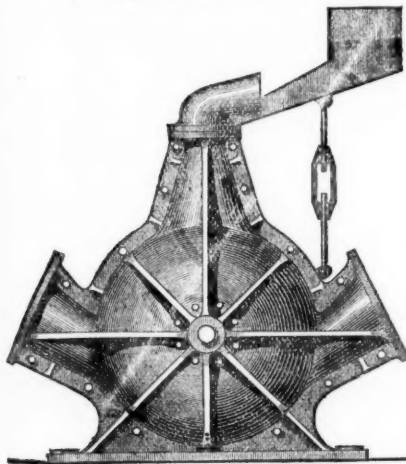
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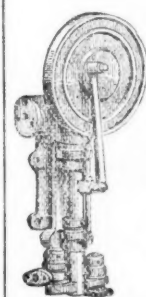
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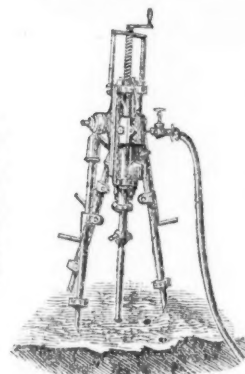
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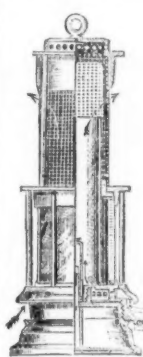
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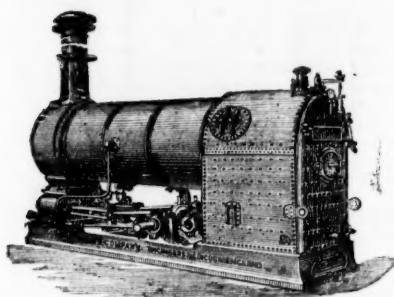
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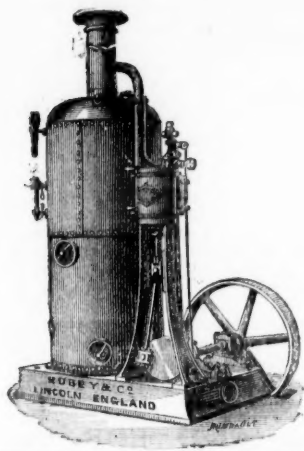
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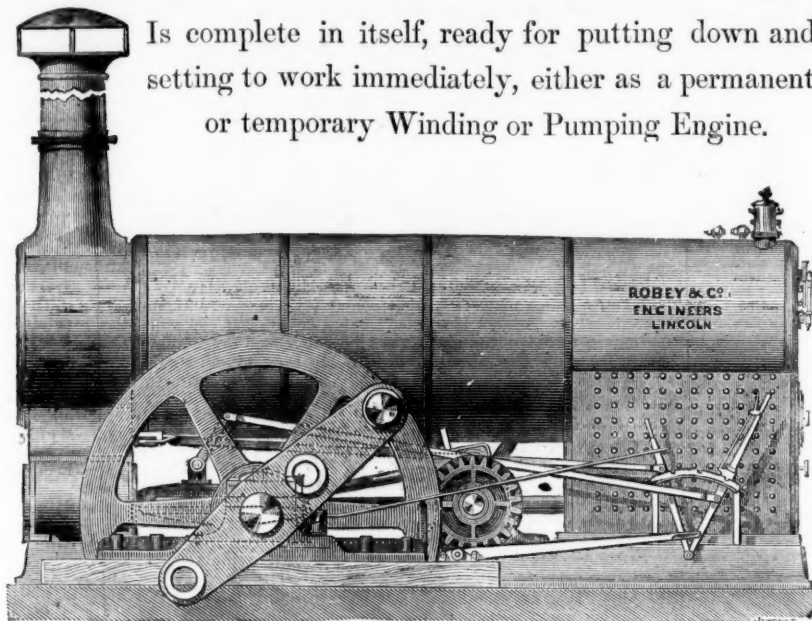
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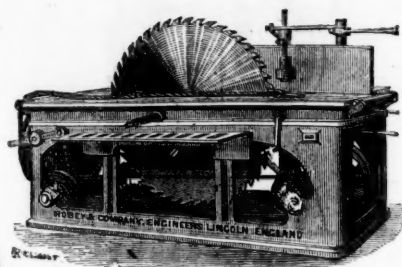


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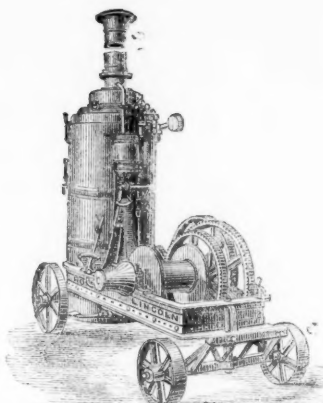
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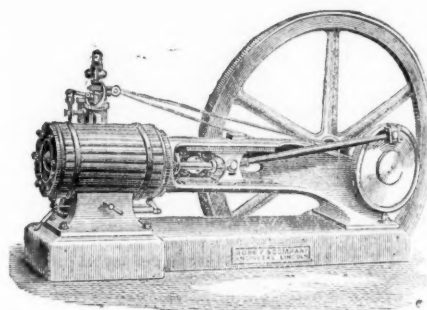
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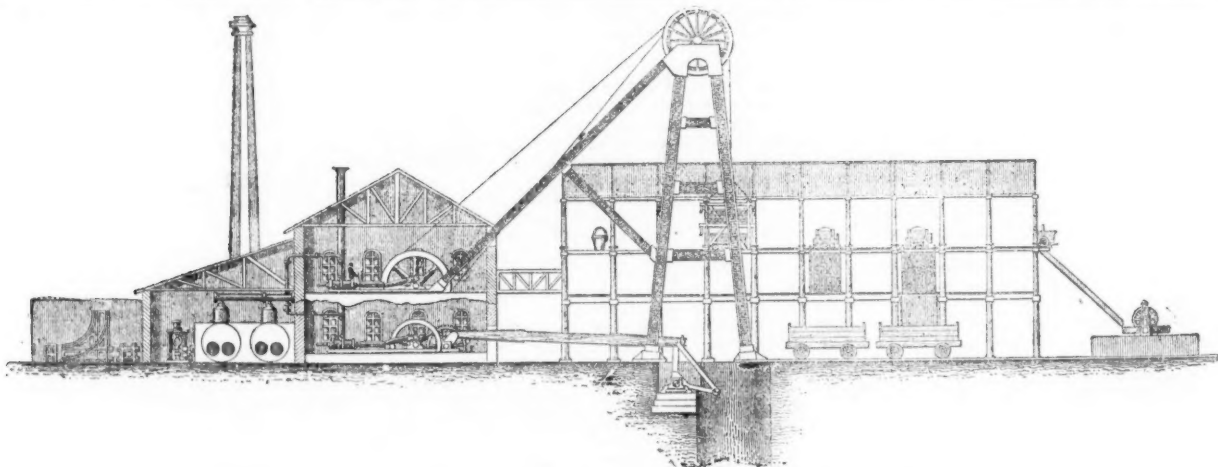
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Original Correspondence.

GAS V. ELECTRICITY.

SIR,—While the public mind is occupied considering the rival systems of illumination, I venture to offer the following points for the consideration of your large circle of readers.

The introduction of the electric light has up to the present been of assistance to gas lighting, inasmuch as it has enforced the demand for a generally more intensive illumination. Even if the electric light were now to pass out of sight the demand for better and more intensive illumination would survive. Since the first foolish panic in gas stock our system of gas lighting has been greatly improved, as is evidenced in the burners now in use in this city of Bray, Sugg, and others, and in Paris of the gas burner known as the "Paris light." These improved gas burners necessitate, of course, a larger though more economical consumption of gas, and so far have increased the quantity taken from the gas companies.

With regard to the electric light opinions differ as to its economy and practicability; but as it is now on its public trial it would not be fair to offer any criticism upon it. This much, however, may be said that in France the system of electric lighting there in use is already waning in presence of the improved and economical gas burners, which even in their intensity retain always the warm glow and tint of sunlight.

The scientific societies in Paris have lately been engaged in making comparative examinations of the different lighting systems. The Société des Ingénieurs Civils, at Paris, issued a pamphlet on Jan. 21, in which the following interesting comparative table is given, showing as it does the very great progress made in the direction of gas burners giving more intense light with hitherto unknown economy:—

Designation.	Consommation en litres à l'heure.	Intensité lumineuse en carcelles.	Consommation par heure et par carcelle.	Effet utile de 1000 litres de gaz.
Bec papillons, 1re série	100	0.77	129	7.70
Id., 2e série	140	1.10	127	7.85
Id., 3e série	200	1.72	116	8.60
Bec intensif de la rue du Quatre-Septembre	1400	13.00	105 à 107	9.20
Bec intensif Marini Guelzer	800	8.5	95	10.60
Id., id.	1500	17.00	90	11.30
Id., sphéroïdal Bengel	700 à 750	9 à 10	75 à 80	12.80
Id., Ulbrich Messner (same as Sugg)	500	7.00	70 à 75	14.00
Id., id.	1400	20.00	70 à 75	14.00
Id., id.	2000	27 à 28	70 à 75	14.00
Bec Siemens à régénérateur	300	5 à 7	45 à 50	20.00
Id., id.	600	13 à 15	40 à 45	23.00
Id., id.	800	20 à 22	38 à 40	26.00
Id., id.	1600	46 à 48	33 à 35	29.00

From this table it will be seen that while the ordinary street gas-jet (*bec à papillons*, or bat's wing) gives for every 1000 litres of gas but 7.70 units of light, the latest gas burner, that of Mr. Siemens, of Dresden, for the same quantity of gas exactly, gives 29.00 units of light, being an increase from nearly one to four. This shows, therefore, that the quantity of gas formerly used is now made to give four times the former light, or, in other words, gas is in a position four times better to meet competition to-day than it was, and that without disturbing either the organisation, plant, or monopoly of gas companies.

It must be remembered that the ordinary electric lights are constructed to give a light calculated (British figures) to produce upwards of 1000 candles. On the other hand, regenerative gas burners are now being made to give also 1000 candles light, and that with a consumption of gas which, when used on the old systems, gave only 250 candles light. This regenerative gas burner combines with its other qualities the whiteness hitherto unknown in gas lights. Without offering a word in depreciation of the electric light, which now makes so much stir among the speculative novelties of modern science, the gas companies may view with perfect composure whatever progress its newborn rival may make, in the confident expectation that, whether in intensity of light or economy of production, they will be able to hold their own, while in the demand for improved illumination they will only find an enlargement of their already enormous production.

H. LINDSAY-BUCKNALL, Assoc. Inst. C.E.

Victoria Chambers.

BLASTING BY ELECTRICITY.

SIR,—Capt. Teague, at the annual meeting of the Redruth Mining Exchange, said that the introduction, first, of boring machinery; second, the new method of blasting adopted by the Beaumont Company; and third, the invention of dynamite as a more powerful explosive than powder, have created a revolution in Cornish mining which must be of immense benefit to the county. We are indebted to Capt. Teague more, perhaps, than to any other mine manager for the introduction of those changes. We have admired his rare courage in grappling with Cornish prejudices and removing many anomalies, and we know also that a manager of such foresight would be the last to suppose that we have as yet reached the acme of perfection in Cornish mining.

The next improvement we must look for near at hand is one that naturally arises out of the three conditions enumerated by Captain Teague—blasting by electricity. That sure and potent power must take the place of the slow and cumbersome safety-fuse, for the electric current possesses all, and more than all, the advantages of powder fuse. Electricity is one-third less expensive than safety-fuse, there is less danger to human life; there is more security and more certainty, and it is the only known method by which spontaneous or instantaneous explosion can be effected. It is this last-named quality whereby all the charges in the several holes are exploded instantaneously, that gives electricity its chief advantage. The explosive power of the charge is enormously increased when several charges are exploded simultaneously. It is like uniting several 40-pounder guns, which, fired separately, would have no impression, into the 100-ton gun, that easily shatters the target struck.

Electricity has not yet been extensively tried in Cornwall, but in North and South Wales it is being gradually introduced. In most large and important operations, especially where time is an important factor, the satisfactory results arising from the electric method of igniting the several charges spontaneously has led to its general adoption. What is more important to the development of Cornish mining than the cheap and rapid exploration of lodes? Indeed, the general adoption of boring machines in Cornish mines shows how much alive our managers have grown to the question of exploration. But the boring machine is only one portion of the invention; the other portion that naturally arises from it is the necessity for spontaneous combustion of all the charges in the several holes. Not only is there a greater certainty of the rock being blasted, but there would be a considerable economy in the consumption of dynamite by the method I now advocate. And it is because Capt. Teague is now erecting at Carn Brea some powerful boring machines that I would venture to appeal to him to give this mighty power of electricity a fair trial at that mine, premising only that if means be taken to prevent failure it will prove a great success. The battery, for instance, should not be at the mercy of clumsy, ignorant, and prejudiced underground workmen. The electric current should be generated at surface by the engine that drives the compressor, so that to all intents the electricity would be a permanent and constant supply, costing a mere nominal sum. I venture to predict that if due precautions be taken to render it successful (they sometimes are not) in twelve months every end in Carn Brea will be possessed of its electric wire.

CAMBORNE.

RUBY AND DUNDERBERG MINES.

SIR,—I have received a second circular from Messrs. Reeves and Co., advising me to sell my shares in the above company, and buy or invest the proceeds in shares of some six or eight mines described by them as "Indian Gold Mines," but which I prefer calling "Indian Gold Nabobs," none of which have paid any dividend, and in my opinion never will; but that I presume will not trouble Messrs. Reeves and Co., as they recommend the purchase of these shares. But it appears very strange that they should be so anxious to dispose of what little interest they have in these so-called mines at

what I call inflated prices. I am at a loss to know why these gentlemen are so earnest in pressing upon me and my brother shareholders the desirability of selling our shares, and why they take so much trouble and spend so much money in advertising the balance-sheet of this company, and printing, posting, and issuing circulars by thousands. They suggest as an excuse for intruding their unnecessary and uncalled for advice that the shares are inflated; but I find they are scarcely at par—10%. Again, they volunteer the information that a syndicate is buying the shares, which has caused them to rise. This is a poor excuse for deluded "bears" to shelter themselves under.

If this was really true the shares would be double their value. The gentlemen that are buying and advising all their clients to buy these shares possess large mining experience, and they know the value of this great property, which has been so long neglected and allowed to remain unnoticed until most important facts lately transpired to satisfy them that the Ruby and Dunderberg is a grander and richer mine than its neighbour the Richmond, and only requires time to develop and explore its vast and wonderful riches. They also know that the Home Ticket lode is expected to be cut at any moment, and then the shares may rise to double their present value entirely on their own merits. The Ruby and Dunderberg Mine adjoins the Richmond Mine, which now proves to be one of the richest and most valuable properties in America, and which has paid hundreds of thousands of pounds in dividends, and will further distribute this year interest and bonus equal to 60 per cent. on the paid up capital of 5% per share, now standing at 18%. I learn from good authority that the directors of the Ruby Company are discussing the payment of the first dividend, which could have been paid earlier had it not been considered wiser to expend the money not paid in dividend towards starting the furnaces. But this has increased the value of the property much more than the payment of a dividend a few months earlier, and advises are to hand that the second furnace is to be started during the present or ensuing week; this will double the returns.

Messrs. Reeves and Co. further state that from the small quantity of ore put out weekly there cannot be any profit, but from figures before me I find the mine yielding a profit equal to 2000% per month, or 24,000% per annum, which should be doubled in a few months now that the second furnace is about starting. I should have treated this circular with the contempt it deserves, but I have many friends who have invested in this mine on the faith that it will certainly be a most valuable dividend-paying property, and my advice to one and all of the shareholders is not to sell but to hold fast, and if you want information go to the offices, and do not be influenced by circulars or "shaggy bears," who want only to destroy our property and regale themselves upon our loss.—April 21. A LARGE SHAREHOLDER.

RUBY AND DUNDERBERG MINING COMPANY.

SIR,—Two circulars issued recently to the shareholders and others, with the view of lowering the value of Ruby and Dunderberg Company's shares, induce me to send you some remarks on the position of this company, which may be useful in enabling shareholders to appreciate these impudent attempts to injure their property. From Dec. 21, 1880, to April 19, 1881, the value of the returns from the furnace amount to \$144,770, from 2956 tons of ore, averaging \$49 per ton of ore; the expenses of getting the ore, materials, carriage to furnace, smelting, &c., are equal to about 50 per cent. of the value of the bullion, leaving a profit of \$72,385, which is available shortly for distribution to the shareholders, at the discretion of the directors, is equal to a return at the rate of 15 per cent. per annum on the share capital. It is confidently expected that after the end of this month when, or early in May, the snow disappears a large increase will be made in delivery of ore from the mines, enabling the second furnace to be blown in, which will more than double the present output and profit.

The Richmond Mine is in the same immediate locality as Ruby Company, both companies' furnaces are at Eureka town. Richmond Company's mines are less in extent than those belonging to the Ruby Company, and there is no reason to suppose that the Ruby Company's mines are not equally rich in ore to the Richmond. The Richmond 5% shares were at 4% 10s. in Sept., 1877, are now 18%. The Ruby Company's 10% shares at 8% 10s., and the great probability is that in three years, or less, they will be at a proportionate price, or (say) 35% per 10% share. With such prospects, and with the actual fact that they have been making, at the very worst period of the year, with only one furnace, returns equal to 15 per cent. per annum on the capital, the shares should at present be worth a substantial premium instead of standing at a discount.

London, April 21.

SHAREHOLDER.

MINING IN NOVA SCOTIA.

SIR,—On, I think, the 2nd inst. I addressed to the Journal some words on gold mining progress in Nova Scotia during the year 1880. I now purpose offering you some account of operations in the mines other than gold for the same period and in the same country.

To begin with coal mining as the most important, considering the magnitude of its operations, the result of the year's work has been upon the whole satisfactory, whether considered by itself or as a promise of future results. I may here remind you that in former years the United States of America were the principal and almost the only purchasers of Nova Scotian coal not consumed within the Province itself. The commercial treaty of 1854 by which this coal was admitted into the United States duty free, led to a gradual increase in the coal export to that country. The maximum quantity was attained in 1865, when it amounted to 465,194 tons of 2240 lbs. The relative importance of the United States as a market may be seen by the fact that during that same year the total coal sales to all other purchasers at home and abroad amounted only to 170,392 tons. It will be remembered that in the following year, 1866, the treaty referred to was abrogated, and the United States imposed a duty of \$1 25c. per ton on coal. Thereupon the annual exports to that country commenced a rapid decrease, until in 1879 the quantity had declined to 51,641 tons, being the lowest known for over 40 years. Hence there ensued, as was but natural to expect, a great depression in the coal mining interests especially for the next six years, and to a considerable extent down to a much more recent period. This depression was really more marked than might have been supposed from the actual sales during these years since 1866, for during and in consequence of the liveness of the coal trade with the United States, a number of new collieries had been opened—of course at a large expense—and the greater number of these during and soon after the year last named had to be closed. Those still open were under the necessity of seeking new markets. These have been found, so far as found at all, in the neighbouring Provinces of the Dominion of Canada, in Newfoundland, and—as yet to only a small extent—in the West Indies. At the same time the home consumption has increased in much greater proportion than the population who are its ostensible consumers. This is owing to the more frequent calling of ocean steamers at Halifax to replenish their supplies of coal, to the increase of manufacturing establishments and railways, worked by coal-generated steam, and to the already growing scarcity and consequent cost of fuel-wood.

To return to the aggregate result of the past year's operations according to the official returns of the Mines Department, the total sales of coal for 1880 amount to 954,659 tons gross, the total quantity raised being 1,032,710 tons, the difference between the two representing the colliery consumption. This is the largest out-put and the largest sale ever yet shown for any one year. The total sales for 1879 were 688,624 tons. The increase extends not only to the home market but to those of the neighbouring Provinces of Quebec, New Brunswick, Prince Edward Island, also to those of Europe and the West Indies, whilst even the exports to the United States have since 1879 increased from 51,641 to 123,423 tons. This latter amount represents the largest export made to the United States since 1874. This result of the year's operation is highly satisfactory, and all the more so owing to the fair prospect that the current year's out-put and sale of coal will show a corresponding increase over those of last year. Still there seems as yet no room in the Nova Scotian coal trade for the renewed operations of those various new collieries which were opened—too hastily as the result has proved—just previous to the year 1866, and closed almost immediately afterwards. I

should say, rather, that there is no room for them unless their proprietors are prepared to carry on their whole operations more economically and with even greater enterprise than have hitherto been customary in this Province. The improvement in both directions is quite practicable.

The only place in Nova Scotia where iron ores are mined and smelted is at the works of the Steel Company of Canada, known as the Acadian Iron Mines, Londonderry, Colchester County. The average daily number of hands employed at these mines and works during the year 1880 was only 166. The iron ore mined amounted to 51,193 tons, as against 29,889 tons for the year 1879. What the product of this ore was in smelted iron or the manufactures of iron I am unable to say. These Londonderry iron mines have now under a succession of proprietorships been in operation for about 30 years. During all that time they have, so far as Nova Scotia is to be considered, been without a rival in the iron making business. Yet iron ore deposits, rich in quality and abundant in quantity, are widely disseminated throughout the Province, and there are various sites where iron making could be pursued as successfully and as profitably as at Londonderry.

Much time and money have been from time to time expended in Nova Scotia in search of copper. Ores of that metal of various descriptions and qualities have been discovered in divers localities. Sometimes, however, the ore although rich is not found in paying quantity; in others the discoveries, whilst they have shown promising surface specimens, have not as yet revealed any workable lode in place. Thus copper can scarcely be said as yet to be a merchantable product of Nova Scotia, although it may soon become so. Explorations in that direction have been continued within the past year. As to their result I can only say of them, as of those of previous times, that the prospects they have revealed are fairly although not remarkably good.

I think that in a letter of last year I made mention of the alleged discovery of a deposit of good silver ore to the southward of the Annapolis and King's County valley. I had not then, nor have I yet, visited the site of this alleged discovery. Great expectations were for a time entertained by those interested as to the eventual productiveness of the supposed silver mine. For some months past I have heard nothing about it; and I infer that the mine in question, although possibly not a proved failure, has yet thus far failed to prove a success. Again in the latter part of last summer an alleged discovery of silver ore was made a few miles to the southwards of the middle course of the Musquodoboit river, and quite near the Caribon and Moose river gold mines, and a large tract has been secured at the mines office among different parties with the view to silver mining. I have not myself visited the spot, but from the evidence of one of experience who was among the first that did visit it, and in whose truthfulness and judgment I can rely, I am much inclined to believe that the discovery will prove to be of importance. Undoubtedly rich silver ore is there found; the question as to its quantity can only be determined by future mining operations. These I understand are about being commenced with vigour.

I need not occupy your space with the less important mining operations during the past year. I may observe, however, that the year's boring operations in the Island of Cape Breton seem to prove beyond question that petroleum must be regarded as an important natural product of Nova Scotia.

GNOME.

Halifax, Nova Scotia, April 9.

EUREKA (NEVADA) MINING DISTRICT.

SIR,—I have the pleasure to furnish you the following news which has reached me from Eureka:—

McDonald and Co. have struck a nice little body of ore in the Independent Mine, lying adjacent to or under the Industry, on Prospect Mountain, and made their first shipment yesterday. The gentlemen are highly elated over their good fortune, and think their prospects justify the most sanguine expectations. If they have found another industry they are to be congratulated upon their luck.

It is reported on good authority that the Badger series of mines, on the south end of Adams Hill, will soon be sold to New York parties. A company is being organised there to develop the property, which is known to be valuable, and as soon as the sale is consummated work on the same will be carried on on an extensive scale. The property consists of over 20 acres of patented mining ground, and adjoins the Richmond on the northwest. Developments have been made that will fully warrant the expenditure of whatever amount of money is needed for thorough development, and the importance of the enterprise cannot be overestimated.

The Gold Hill News says: "Day by day the probability becomes greater and greater that there has been a change in the control of the Sutor Tunnel. The News has information from a reliable source, however, that the Bonanza firm have not secured that control, but that John W. Mackay has obtained it in his own name and right." The annual meeting of the company—which was to have been held this month—having been postponed until April 6, for lack of a quorum, it would look as if the man who held the controlling interest was not in the country.

Albion astonished some of its holders yesterday when it reached \$2 30. If the stockholders could see the Albion Mine they would not be more astonished, and stock would go to \$5 at least.

Telephone connection has been made between the Albion and Eureka Consolidated Mines and the main offices in Eureka. When the instruments arrive, in a few days, the superintendents here will save many a trip to the hill, as well as a great loss of time.

THE DEAD BROKE.—Martin Piantoni, owner of the above-named mine, was in town yesterday and informed us that he is running a level at the 200 station, and that he will soon commence an upraise. He has ore on both levels, and that the mine generally is looking well.

London, April 21.

RUBY HILL.

CALLAO "BIS" GOLD MINING COMPANY.

SIR,—It may be interesting to the shareholders in this company to learn what a highly efficient set of directors they possess, and, as usual, who receive salaries for their valuable assistance in looking after the shareholders' interests. In August last they purchased 700 acres of land for \$8,000, equal to 114. 6s. per acre, no report at that time, so far as I know, having been made by experts upon the property purchased whether it contained gold or not; but two months after the purchase a mining engineer (Mr. Attwood) was sent out to prospect the property and report thereon. On Feb. 10 the engineer's report was circulated to the shareholders. It stated that gold had been found on the property. This is only putting the cart before the horse, of very little consequence in the eyes of such highly intellectual and business-like men as the directors of the Callao "Bis" Gold Mining Company.

The directors of the Akankoo Gold Mining Company and the Michipicoten Native Copper Mining Company have acted very differently, using caution and discretion. They have made arrangements with the vendors that the purchase money is not to be paid over by the companies until the properties have been examined and reported upon by an independent engineer, geologist, or other competent person, to be appointed by the directors, thus demonstrating in the most thorough manner the entire confidence of the vendors in the richness, value, and prospects of the mines. Eight months after the company had been floated a mining captain was sent out to superintend mining operations. A few days after this the directors disposed of 400 acres of the land to the Private Investors' Association, for 33,300%, equal to 83. 5s. per acre, apparently entailing a loss to the shareholders of the sum of 12,421. upon this transaction, not taking into account the sums expended in exploring the Sosa-y-Mendez concession, the preliminary expenses, including the registration of the company, and all advertising and printing up to allotment of shares.

When the Devala-Moyar Gold Mining Company disposed of 50 acres of their property (Rhodes Reef) they got 2600% per acre a difference of 2517. to what the shareholders of the Callao Bis Gold Mining Company is to receive from the Private Investors Association. The chairman at the last meeting stated—Gentlemen, the history of this company is a forcible illustration of the fact that if the directors of a company are entitled to trust at all it should be a free and thorough trust, &c. The directors have listened to proposals made to them for working the Sosa-y-Mendez concession by a separate company, the directors will take great care that the interests of the present holders shall be protected by a share interest in any property sold by the company being properly secured to them. A circular dated April 2 (with prospectus of the Sosa-y-Mendez Gold Mining Company) was forwarded to the shareholders of the Callao "Bis" Gold Mining Company, which reached them on Monday, April 4. At the same time, all the daily papers had the advertisement in their columns. I maintain that all the original shareholders ought to have had priority of application, either by having notice sent to them a week or so before it was brought before the public,

or to have had application forms printed on pink paper, as is carried out by all well regulated companies.

Unless the directors of the Callao "Bis" Gold Mining Company can justify their proceedings in disposing at an apparent loss of 12,421*l.* of the Sosa-y-Mendez concession, after it had been proved by means of four assays that it yielded the almost fabulous quantity of 27 ozs. of gold to the ton, I hope my fellow-shareholders will immediately convene a special meeting to appoint a sub-committee to fully investigate the affairs of the company from its formation to the present time, more especially to examine the Articles of Association to find out if the present directors were empowered to dispose of the Sosa-y-Mendez concession without having the sanction of the shareholders; if they had not, then I hope the shareholders will, in their own interests, cancel the sale thereof.

RAMSAY COOKE.
Paris, April 16.

RICHMOND CONSOLIDATED MINING COMPANY.

SIR,—As a shareholder in the above company I have been much gratified in following through the columns of your Journal the splendid weekly reports of the company's mining operations during the past year, more especially as the returns appear to indicate, not only increased production and refinery, but also increased value in the grade of the ore raised.

About 12 months ago some letters appeared in the Journal to the effect that, in spite of the then handsome dividends being paid, the company were only at the commencement of a long period of greatly increasing prosperity. Since the publication of the communications referred to the knowledge or foresight of the writer has been fully justified by results obtained, and the shares quoted at 12 in February, 1880, cannot now be bought under 18 or 19, and in evidence of their being in good hands and firmly held, I can assert from experience that there is generally great delay and difficulty in obtaining delivery of shares after purchase. In the face of substantial results shareholders need no advice on the subject of continuing or adding to their holdings. But I would suggest the following points for the consideration of those holders of long standing whose faith in the future of the mine has never wavered:—

1.—The gross profits of the past financial year (accounts to be presented in May) must amount to fully 700,000*l.* taking the published weekly returns as bases of calculation.

2.—It is an incontestable fact that silver and lead sold by the company have realised better prices during the past than in the previous year.

3.—The Chairman at the meeting in May last promised greater economy in and reduction of working expenses, and there is reason to believe that this promise has been fulfilled.

4.—There should, therefore, remain for distribution amongst shareholders not merely a larger but also a larger proportionate amount than has ever before been available for dividends.

Assuming that the gross profits are about 700,000*l.*—which they certainly should be if the official returns have been accurate—there would, with the sum of 20,000*l.* carried over from last financial year, be 720,000*l.* available for all purposes, and if from this amount we deduct the 81,000*l.* already paid in *ad interim* dividends of 30*s.* per share on the 54,000 shares of the company, there remains a sum of 639,000*l.* to be accounted for. The fourth quarter's dividend of 10*s.* per share payable in May will absorb 27,000*l.* of this, and leave 612,000*l.* Should the directors declare a bonus of only 3*l.* per share, and carry 100,000*l.* to the reserve fund, there would still remain the very ample and handsome sum of 512,000*l.* to cover all working expenses, explorations, repairs, machinery, salaries, fuel, &c.

With such figures as have been presented to them from week to week the shareholders are hardly likely to be satisfied with any smaller bonus or increase to reserve fund than that suggested. But whatever course the directors may decide to take, it is quite clear that the property of the Richmond Company (subject, of course, to good management) is improving, and that when its real value and *bona fides* are more widely known amongst the investing public, the shares are far more likely to command 38*l.* each instead of the present inadequate price of 18*l.* In conclusion, my advice to fellow shareholders is don't sell until after you have received the chairman's report and heard his speech at the May meeting. If good things are not now in store for the Richmond shareholders they never will be until —

READER AND CALCULATOR.
London, April 18.

ROSSA GRANDE MINING COMPANY.

SIR,—The notices in your valuable Journal from time to time respecting this ill-treated property shows that there is still some interest respecting it. The time is again approaching when hundreds of acres of magnificent woods will be cut down for the benefit of a few Brazilians to plant Indian corn. Now the capital has been expended the board do nothing, not even calling a general meeting in conformity with the Act and the Articles of Association. What penalty is incurred by this breach of the Act of Parliament? Surely there ought to be some public officer—the Registrar of Joint Stock Companies for instance—to see that the Act under which his office exists is not set at defiance with impunity. There is little doubt that Rossa Grande could be worked to a profit by competent parties, with a proper committee in London, not two or three persons whose knowledge of mining to say the least is very doubtful indeed, and who may not know more about a mine than a mine knows about them. The way the plant and property of the company have been sacrificed for years is a matter of great regret. It would almost appear to be the object of the directors to weary the shareholders until they forget their losses or die off, and allow the estate ultimately to become the property of some enterprising Brazilian or sharp American by endeavouring to obtain a "privilege" over it. This method of obtaining a privilege under pretext of which the property of third parties are attempted to be trespassed upon has recently received an illustration at Cuimba, where one company has been seeking to trespass upon the property of others in the district, and it was announced with a great flourish that they held the whole of the mining rights there, the fact being that they bought some rights to land of very little value and doubtful titles. It was thought a privilege would strengthen their hands, but they were in error. The fact is no privilege can be granted by the Government over mining ground already purchased and the duties paid. But in the instance of the Rossa Grande Company there would probably be no one in a few years hence to take care of the interest of the shareholders.

OURO PRETO.

SAN PEDRO CHILI MINING COMPANY.

SIR,—Since the report of the financial agent, dated Jan. 5, and published in the *Mining Journal*, I have received no further information from the company. Can any correspondent inform me through the Journal what is doing, and how often advices arrive in this country from Chili? Two calls have been made but no balance-sheets have been published. There seems to be a want of energy somewhere which bodes ill for our future.

A gentleman who has been in the neighbourhood of the mine states that it is a valuable property if worked properly, that 500 coolies might be easily engaged and employed, and that it is necessary to employ considerable labour if the mine is to be properly developed; whereas I was told that "two men" had been sent out. Several thousands of pounds I hear have been expended. NON SOMNOS.

MOLESWORTH UNITED MINES.

SIR,—We hear with pleasure that a public company is now being formed in London to work this mining property with the spirit which it so well merits. During the past twelve months some preliminary work has been carrying out, which has opened a valuable lode for tin in the deep adit, and at the 20 the same run of tin ground is now being reached in driving that level east, which, from every appearance, will open up a valuable run of tin ground in this direction. It is well known that previous operations some years since opened out valuable lodes in another part of the grant, which, when suspended, was only intended to be for a short time. Circumstances, however, prevented the then owners going further in the matter, and it is a fact that the then manager has ever since

had an eye to it, and has in connection with those to whom he has recommended the property to do their utmost to again secure it for themselves. This property is held in high estimation locally by everyone, and there are several parties that would gladly take it up if an opportunity presented itself. The facts above referred to can easily be confirmed by a visit to the mine and inquiries in the district, where much more will be heard in favour of the undertaking, and miners are rejoicing at the news that this valuable mine will soon be opened in their midst, who are desirous of commencing to work the tin ground at a tribute profitable both to themselves and the company.—*Breage, April 19.*

TIN MINER.

LORDS' DUES ON MINES AND METALLIC MINERALS.

SIR,—Now that capital for working "old mines" is flowing like a river into Devon and Cornwall, it probably never occurred to the promoters of those great mining companies that a more opportune time than the present could never occur for stipulating with the lords when agreeing for leases that the dues shall be paid on profits instead of on gross produce; and if the lords will not agree to such just and equitable terms let them keep their mines idle. The lord runs no risk whatever, and it is a monstrous absurdity and injustice that he should reap the benefit of other people's capital, while they are often losing "cartloads" of money. If those who subscribe capital will not take this matter in hand and put an end to it let them not complain.—*Cork, April 19.*

HIBERNICUS.

GUNNISLAKE (CLITTERS) MINE.

SIR,—I am pleased to hear that the managers of this mine have at last awoke to the necessity of using boring machinery for the proper development of this property, and that a meeting of shareholders is to be called for giving effect to this and providing the ways and means. As one who will not be present at the meeting I would, with your permission, call the attention of the committee to a few facts, and suggest that for the present they should confine their operations with the boring machines to the lodes in and above the adit. The adit is driven for about a mile and is 80 fathoms deep. In this adit 13 lodes have been intersected, only one of which (the Bonney lode) has been worked upon to any extent, whilst the two richest lodes, Parker's, or the Green lode, and Crease's, have been quite neglected. These two lodes proved enormously rich in the adjoining mine, Old Gunnislake, and were the foundation of the colossal fortune amassed by the Williams family, of Scorrier. At and about the point of intersection in the Clitters adit these lodes maintained their proverbial richness; but could not be worked for want of ventilation. I, therefore, venture to predict that a few weeks' operations in these lodes with the boring machine will pay all the cost of providing the machinery, and that in two months they will get enough ore to pay all the cost of the mine, leaving the returns from the Bonney lode as clear profit.—*April 21.*

A SHAREHOLDER.

THE HELSTON TIN DISTRICT.

SIR,—It is pleasing to find mining reviving in this district, and that some of the mines that were suspended during the late depression are again to be worked. Two mines in Wendron are being floated locally—Basset and Grylls, and Trumpet Consols. Polcibo and the adjoining property, Wheal Worthy, are in the hands of London gentlemen, and are to be floated at once. Basset and Grylls and Trumpet Consols are considered good speculations. Polcibo has a good tin lode discovered, from which returns may be made in three months after commencement of operations. Wheal Worthy is said to be the best new tin property in the whole district, and the fact of thousands of pounds worth of tin having already been sold from shallow workings, and chiefly by tributers, goes a good way to confirm the statement, and a small outlay here will open out some important points. Going west, to the Great Work Mine, Captain Tesgwe is forking out the water here, and making room for the employment of a great number of hands to work on the various tin lodes of this celebrated old mine. At West Godolphin the pumping engine will soon be at work by the new company, and great results are expected. Molesworth United is a good tin mine, and we hear it is to be worked more vigorously by a new body of shareholders. This mine can be worked cheap, and has good discoveries of tin to go on with, and it is hoped it will soon be in full swing. It is also reported that other large properties are to be worked in the district, and undoubtedly there are some equally worthy of the necessary outlay.

April 18.

LOCAL INVESTOR.

MINING IN THE LISKEARD DISTRICT—No. 1.

SIR,—I am glad to see mining again reviving in this locality; but let us hope it may not generate a mania to the great loss of the honest confiding investor, as we have often so painfully witnessed. By your kind permission I will give the directors a few words of disinterested advice. I know the district from end to end, and I have further watched the progress of the formation and promotion of mining companies, and, therefore, should understand the subject advised upon. We often witness people advising on subjects of which they know but little, which is fairly characterised as presumption. Firstly, let them see that the enterprises are sound and strictly legitimate in the commercial aspect, which can only be done by the patient survey of able miners. What I mean by an able miner is one who has graduated underground and become an expert—tutwork and tribute miner—and, moreover, one well read in mining and the cognate sciences, and possessing a thorough knowledge of the subject, for being thus versed he will become intelligent to miners of all grades, be at home with the man of theory and science, and render himself clear to the enquiring shareholder. He should also possess a knowledge of dressing (as Capt. P. Rich has it) from the "trunk" upwards. Without these qualifications no one could fairly claim to be considered an able miner; and for my own part I would refuse to invest in mining save under the guidance of those qualifications. Again, let the directors see to it that the premiums demanded in cash and shares be fairly prospectively assured on sound authority. For instance, if any one can offer a piece of ground for some 10,000*l.* or 12,000*l.*, presenting strictly analogous physical features and combinations to an adjacent mine which has paid (say) 100,000*l.* in profits, or some other mine existing under very similar conditions. I think no one could characterise this as an attempt to swindle, or less than a genuine speculation, with tempting odds in its favour; but such soundness of estimate cannot be secured save through the services of experienced miners of the above type.

We are often pained to see reports and estimates merely consisting of assertion, and upon little or no data whatever. Directors, too, should see to it that they are not misled by any real or presumed proximity. Next to the re-forking and resumption of abandoned worked out mines comes this ghost proximity. If a given sett a mile long on the course of lodes has its productive range near the east boundary, it is clear that the owners of the ground west of their neighbours could claim no real analogous relation to their rich neighbours' sett until they could point to the preliminary discovery of mineral combination such as preceded the rich discoveries, or to the mineral features as has generally led to satisfactory results. As yet there has been but two paying discoveries east of South Caradon, and none west of West Caradon. Proximity has at times an assuring value, but in the majority of cases it becomes a delusion and a snare. Give me analogous geological and mineralogical features to the full as an assurance, and let others take the fragmentary strings and often the mere nothingness of proximity, which is about the same relation to one another in the bulk of cases as the bone to the flesh; and it, therefore, follows that the untried and unwrought mineral indications west of West Caradon and west of the Phoenix paying mines must stand upon their own individual merit, such as would justify the outlay of capital in themselves, if as yet the paying discoveries alluded to had not as yet been made. Therefore, let directors look to this, and see also that the salient points of their limits be first tried, as we often see agents of limited experience turning their back to the main points, and pursuing others that must end in disappointment. They should get their limits well costained and clearly planned, and then carefully inspected by men who have had the proper experience to whom the younger and ordinary mine agent could look to with

confidence and respect. We often see persons going into mines in the garb of the inspector, whom both agents and miners laugh and scorn at, and find considerable difficulty to be civil to them. Directors of limited or no experience often do what Cousin Jack calls "funny things."—*London, April 20.*

A MINER.

GREAT WHEAL POLGOOTH COMPANY (LIMITED).

SIR,—I was induced to apply for a few hundred shares in this company, relying on the ascertained capacity in mining matters of those who were advertised as its directors. These were Mr. H. S. Wilde, Director of the Eureka (Nevada) Consolidated Mining Company; Sir William Crosbie, Bart., Director of the Pluto Mining Company; Major Fortescue, J.P., Director of the West Frontino and Bolivia South American Gold Mining Company; and General Nuthall, Director of East Wheal Rose. The shares have been allotted between three and four weeks. It was stated in the prospectus that the mine could be very easily worked, the water-power being close at hand, and that the position of the sett in a highly mineralised district gave assurance of abundance of tin. May I enquire through the medium of your valuable columns what progress is making in developing the resources of this mine? Has the water-wheel been procured, and have operations generally commenced. The statements in the prospectus of Captain Fortescue, manager of the mine, promised energy.

April 18.

SHAREHOLDER.

GREAT WHEAL POLGOOTH.

SIR,—In answer to "C.W.'s" letter, I beg to say that being a large shareholder herein I, together with three other shareholders, went down to the mine last Saturday, and I may safely say that I was never more pleased in my life with the appearance of any mine. The reports issued with the prospectus are fully justified, and there is no doubt that a splendid property will be opened up. In fact, returns can be made at once. My views are thoroughly borne out by Captain J. H. James, of Grampound Road, Cornwall, the well-known mining engineer, whose report, just made by him, I enclose, and I think it might be acceptable to many if you would kindly print it.

I conversed with a former worker in the mine, and he says—"The lode I worked in was very rich, so much so that we had to use old bags to break down the lode stuff on; it was almost pure tin, and nearly clean enough to be sent to the smelting-house. I feel perfect confidence in the mine, and believe that the division of 10*s.* per share among the shareholders, from the sale of a portion of the company's property, will be soon made, as negotiations are now, I understand, taking place, with an apparently satisfactory result.

London, April 19.

E. A. ELLERMAN.

April 9.—The geological features of this property are of a most promising character. The lodes are embedded in clay-slate near its junction with the granite, through which passes a large stanniferous elvan course, and on either side of this course there is a large masterly and well-defined tin lode dipping in the same direction as the elvan course itself. The south lode is from 6 ft. to 10 ft. wide, very rich in tin; and the north lode is from 3 ft. to 4 ft. wide. From these lodes numerous branches of tin run into the elvan course and form large deposits, making the elvan course in places also most valuable. Under precisely similar geological features many of the richest and most profitable mines in Cornwall have been discovered. I have myself broken from these lodes large lumps of almost pure tin; and I believe that by practical and energetic working the mine will be found to be a very profitable one, equalling the most productive mine in the country. Besides the above there are several other valuable tin lodes on the sett.—*J. HARRIS JAMES: Grampound Road, Cornwall.*

WEST KITTY AND WEST POLBREEN.

SIR,—You will remember my addressing you on the subject of West Kitty quotations, and urging your readers to be on the alert, as a movement in the shares was at hand judging from the state of the mine. I despair of ever influencing quotations. In to-day's *Financial* some worthy has been pleased to quote West Kittys at 3 to 3½, whilst the true quotation is 3½ buyers, in Cornwall and in London. A short time since these shares were quoted by so-called eminent dealers at 2½ to 2¾, whilst at the same time there were buyers at 2½ in Cornwall and in London. No doubt other shares are liable to the same misrepresentations, which, in my judgment, ought to be exposed. It is but fair to say that these erroneous quotations do not directly or indirectly emanate from the offices of the company, or from anyone connected with the mine. They come from outsiders, who wish to buy but cannot, and who I most sincerely hope will never be able to get any shares. It may be well to inform your readers now that an impression prevails to the effect that these shares will go to 10*l.* I offer no opinion on that point; but it is undeniable that at the present moment and for some time past the reserves have been increasing to the extent of 1000*l.* per month. This has been evident from the public utterances of the Chairman of the company, than whom no one has been more emphatic or explicit with the shareholders concerning the prospects of West Kitty. That the local manager has confined himself strictly to facts is fortunate for the company, for he has established his reputation, and everybody will give the fullest credence to his statements.

I have been favoured with Capt. Vivian's opinion of a mine almost immediately adjoining West Kitty—West Polbreen; and I send you herewith copy of his report for insertion in your columns. A great deal of capital is being made out of the prospects of West Kitty Mine, and one would suppose that the lode ran everywhere in the St. Agnes district. Such, however, is not the fact. The mine immediately adjoining West Kitty, into which the Wheal Kitty lode runs, without a doubt is New Kitty, and thus the enquiry for those shares; but the next mine that can rightfully claim it, because it has it, is West Polbreen, immediately adjoining New Kitty, and it is to West Polbreen I wish the attention of your readers directed. Here is a splendid property, which will probably be worked at considerably less cost than either of the two before mentioned. They will shortly be cutting the Wheal Kitty lode at a point 20 fms. deeper than it has been yet seen in that mine, and it is by no means improbable that the return from this and other lodes in West Polbreen will yield a very large profit to the shareholders. That is clear, I think, from facts that cannot be disputed, and from the opinion of Capt. Vivian, who is so well acquainted with this district, and whose opinion, by the way, is worth having concerning the run of Wheal Kitty lodes.

I am in a position to say that water-stamps for West Polbreen have been arranged for, and the requirements for them may be rather heavy before long. Be this as it may, your readers will be surprised to learn that at the present moment West Polbreen shares are quoted at 25*s.* each, a quotation which I characterise as absurd as a similar quotation of West Kitty not long ago, but West Polbreen shares at this moment can be obtained at 30*s.*, perhaps lower; and if your readers really desire to enter the St. Agnes district as shareholders on the merits of West Kitty and Wheal Kitty they cannot do better than at once instruct their brokers to buy West Polbreen shares. I am not myself a dealer in mining shares, nor a seller of West Polbreen shares, but they can be easily obtained as I write. I venture to predict with as much confidence as I predicted a rise in West Kitty that West Polbreen shares in 12 months' time will be selling at least at 4*l.* per share. This is a moderate calculation. We know how mining shares advance, and judging from the price of some others I could name West Polbreen shares at the present moment ought to be at 20*l.* each. The mine is better worth 120,000*l.* than other properties selling for a like amount are worth 120 pence. A word, however, to the wise is sufficient.

THOMAS EARLY.

City, April 12.

MINING PROSPECTS IN MERIONETHSHIRE.—A correspondent writes as follows:—I am very glad to hear that there is every prospect of a speedy revival in mining in Merionethshire, and that before long there will be an influx of workmen into the town. For the past few weeks a large number of engineers and speculators have been visiting the neighbourhood; it is supposed with a view to renewing operations where they left off at the time of the great crisis. One of the first mines that will be set to work, it is rumoured, will be the Vigra, for which purpose Capt. Milford is continually on the spot superintending the preparatory operations. At Llansawcllyn a rumour is afloat that it is contemplated setting on men at the old mine, and at the Crown Slate Quarry, near Dolgelly, which is about, I am informed, to change hands, it is proposed to set on about 50 men. Mr. James W. Green, engineer, Aberystwyth, says if about 2000*l.* were expended 450*l.* of slates per month might easily be produced. I visited the mine myself on Tuesday, and by the courtesy of Capt. R. P. Williams was shown through the workings, which are very extensive, and comprise several levels many

hundred yards long. The slate I saw was of excellent quality, and the cleavage of the very best description. The great fault is that the mine has been very badly managed in the past or it would now be in full work. If these promises of improvement in mining prove good, Dolgellau will once more become the thriving place it has once been, and many who are now out of work will have no further excuse for idleness.—*The Carnarvon and Denbigh Herald, April 16.*

REPORT FROM CORNWALL.

April 21.—The Easter holidays, from the effects of which we are still suffering, and which have been kept up this year in the West—thanks to the almost unprecedentedly fine weather—to an extent never known before, prevented more than a passing reference last week to the very successful meeting at Carn Brea. Nothing, indeed, happened that was not tolerably well forecast; but the re-entrance of such a notable mine into the Dividend List is by no means a matter of everyday occurrence, and may be taken as one of the very best evidences we have had of the thorough character of our mining revival. A profit of 3821*l.*, which, but for the duty of clearing off the last remains of the debt—2114*l.*—would have sufficed for a dividend of nearly 4*l.* per share, is by no means a bad result of four months' operations, let alone the certainty that there is still better to come. The subdivision of the shares is a wise step, though the extent may be a little open to argument as to whether 4000 or 5000 would not have better.

It is very unfortunate there should be so much "haggling"—for it is really very little better—over the credit individually due to the opponents of the extension of the dynamite monopoly, and it is hard to see why Mr. Waddington should again have been selected at Carn Brea for the intimation that he was actuated by interested motives. Of course he was, and so was everybody else concerned. We do not for a moment imagine that the whole credit is due to that gentleman, or that there is any one who thinks so; but that he was one of the leading spirits in the movement there can be no doubt. Undoubtedly, very important positions were also taken by Captain Williams, Captain Josiah Thomas, and Captain Teague, and let credit be given wherever credit is due. When all is said and done, however, it really seems as if the equity of the matter would be better met by fitly recognising these other services than by ignoring those of Mr. Waddington, or depreciating them, which comes to the same thing. It is a thousand pities that the concord so well sustained before the Court of Appeal cannot be maintained now. "One and all" has long been little more than an idle phrase in mining matters, and yet we see what may be accomplished when there is really joint action.

However, after all the matter of testimonial controversy is only a side issue of no practical importance, and of very little interest by the side of the actual doings of Carn Brea. No one can read the report of the last account and fail to see how well founded has been the position of those who have always insisted that there was plenty of vitality in Cornish mining to weather any storm, especially when controlled by men of such knowledge, pluck, and energy as Captain Teague. Whether Cornish mining is really "in its infancy" or not, there can be no doubt that the boring machine and the economies born of distress have naturally lengthened its days; and that, so far as Carn Brea itself is concerned, it is likely to last out more than this generation or the next either.

The census is telling a sad tale from most of the districts of Cornwall, and it is pretty evident that the total population of the county has materially decreased within the last decade. So far as the figures are yet known, this is true of every mining locality, and of nearly every rural centre. The towns, too, are largely decadent; and, probably, with the exception of Newquay, which has sprung into repute as a health resort, the only places in the county that will show a noteworthy increase are Penzance and Falmouth. For the rest Truro, Liskeard, Hayle, Launceston, and Chacewater are already cited as among the more notable instances of diminution.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

April 21.—On 'Change in Birmingham this afternoon, as in Wolverhampton yesterday, the pig-iron market was characterised by much strength in the quotations of a few of the Staffordshire all-mine makers. Exceptional firms refused to take less than the old figure of 3*l.* 5*s.* for hot-blast sorts, even in the face of the reduction of 5*s.* declared by the Shropshire houses, as advised in last week's report. Buyers, however, mostly declined to treat with such a figure as the basis of negotiations. Derbyshire pigs were generally quoted at 45*s.*, and Tinsley pigs at 50*s.* Native cinder pigs were quoted on the open market at 40*s.*, but in actual business such makers would generally agree to take 2*s.* 6*d.* less. Some pigs made out of this district were scarcely so firm as last week as to certain high class sorts. The amount of business done in crude iron was only small.

In the manufactured iron trade marked houses kept up this afternoon their quotation of 7*l.* for common bars. Messrs. Wm. Barrows and Co. announced best bars 8*l.* 10*s.*; best angle, T, and rivet iron, 9*l.* to 10*l.*; and plates and sheets, 9*l.* to 12*l.* Messrs. William Mittington and Co. announced bars, 7*l.*; plates, 8*l.* 10*s.*; and best plates, 9*l.* Inferior boiler-plates were, however, to be had at 8*l.* as a minimum, and some capital sheets were quoted at 8*l.* by such firms as E. T. Wright and Sons. Stamping sheets were quoted at from 12*l.* to 15*l.*, according to quality. The common bar makers were still willing to accept 5*l.* 12*s.* 6*d.* The tin-plate trade fairly well maintained the advance of 1*s.* 3*d.* per box which I advised last week, and the demand was reported as better. The Coal Trade is without any marked alteration. House coal is expected to be officially reduced on May Day; buyers consequently hold back.

At the Quarterly Meeting last week the stalls devoted to new inventions of objects of interest connected with the iron trade were well filled, and attracted a good deal of attention from the ironmasters present. Among other mechanical contrivances we may mention a model of Tibbs' patent hot-air chamber, for utilising dry oxide cinder bottoms in mill and other heating furnaces, and so getting rid of the obnoxious sand bottom. By this contrivance the inventor claims that a far superior quality of iron can be produced than by the sand-bottom principle, and at a cost of at least 10*s.* per ton less. A working model was also shown of the Wilson patent gas producer, for firing every description of furnace. This apparatus, we are assured, transforms every portion of coal except the ash into combustible gas. It is applicable to all classes of furnaces, also for firing land and marine boilers. It may be placed either close to, or at any distance from, the point at which the heat is required, and will burn fine slack coal, and utilise the same in the production even of the most intense heat, with perfect facility. A specimen was also shown of Carr's crucible melting furnace, for melting steel, iron, copper, gun metal, brass, gold, silver, &c. The number of heats obtained from a plumbago crucible in these furnaces is from six to ten more than in the ordinary ones. The furnace lights more easily than any other; the consumption of cokes is considerably reduced, nearly every particle being consumed. The furnace is portable, and may, when required, be removed from one ash-hole to another. A working model was also exhibited of Wills' patent hauling clip, for colliery trucks; and there were samples of the heat-retaining composition of Messrs. T. Smith and Co., of Burton-on-Trent; of tubes and other iron goods treated by Braff's anti-corrodo process; of Richards' plastic metal for pasting up and refacing all descriptions of machinery bearings, journals of splindles, axles, or shafts, water-plugs; specimens of Ayresome and Cinderford pig, Somorostro ores, typographic printing, and Stourbridge firebricks, &c.

On Wednesday a quarterly meeting of the South Staffordshire and East Worcestershire Mining Accident Fund was held in Wolverhampton. The secretary reported that the dividend account now stood at 85*l.* and the capital account at 30*l.* Two relief grants were made, one of 5*l.* to a collier's widow with two children and another of 4*l.* to a widow who had no family. A third application the Chairman—Lieut.-Colonel Thorneycroft—ruled could not be entertained, since the husband of the applicant met his death as far back as August last. Relief can only be afforded in cases where death occurs during the three months immediately preceding the quarterly meeting of the Fund.

It was reported at the annual meeting of the North Staffordshire Miners' Permanent Relief Society, on Monday, that extraordinary

progress had been made during the past year, the society having increased by 2078 members. The balance at the bank to the credit of the society was now upwards of 3000*l.*

A petition for liquidation has been filed on behalf of R. Olive, of the Woolfold Railway Wagon Works, Bury; Springside Wagon Works, near Bury; Hexthorpe Wagon and Iron Works, Hexthorpe, Doncaster, carrying on business as John Olive and Son, railway wagon builders and wheel and axle makers; and at the Burr's Paper Mills, near Bury, and Cannon-street, Manchester, as a paper manufacturer. The liabilities are estimated at 100,000*l.* The assets are considerable.

TRADE OF THE TYNE AND WEAR.

April 20.—The coal trade has improved a little during the week; the shipment of coals at Tyne Dock and other points has maintained about an ordinary average. Steamers have been rather scarce, but there has been a large arrival of sailing vessels. Several very fine sailing vessels have loaded steam coals this week, and the arrivals of foreign sailing vessels have been very numerous. After the holidays there is a prospect of a considerable increase in the shipment of all sorts of coal, as the orders are large, and there is a good supply of shipping in these rivers. The improvements at Blyth Harbour are to be proceeded with at once; the work of deepening the harbour has, indeed, been commenced—the Harbour Company will increase the depth of water at the shipping berths to 15 feet, the cost of these improvements being 14,000*l.* The North-Eastern Railway Company will erect staiths for shipping coal, and also construct branch lines of rails for bringing the coal from the collieries in the locality. When these important works are completed the attention of the Harbour Company will be directed to improving the entrance to the harbour by removing the rocks and increasing the depth of water in the bar. The coal trade in Cumberland has improved considerably, as is evident from the fact that the value of coal in that district has increased considerably of late. It appears from the returns of the accountants appointed under the sliding scale that the average price of coal for the three months ending March, 1881, was 5*s.* 9-38*d.* per ton, and in consequence the miners will get an advance of 5 per cent. in their wages. It thus appears that the value of coal in Cumberland at present is 1*s.* at least per ton above the average selling price of coal in Durham, and this can, perhaps, be accounted for by the great expansion of the iron and steel trades on the west coast.

At the Cleveland quarterly meeting various articles were exhibited. Among these were specimens of the work turned out by the Nickel Plating Company, of Stockton, a number of articles being nickel-plated, and others simply polished. The company have added to their business that of metal polishers, and for this they used an ingenious and effective piece of machinery, invented by Mr. Thomas Fenwick, of Stockton. Mr. John Lea, Queen Victoria-street, London, showed samples of Vena Dulce Parochia and Rubio Avenida iron ore from the Somorostro district, near Bilbao, in Spain. The former is guaranteed to contain 54 per cent. metallic iron in the dry, and the latter 52 per cent. Messrs. T. W. Macnay and Co., of Middlesbrough, exhibited samples of Hall's patent blasting cartridges of compressed gunpowder, which are being largely adopted in the mining districts, as they are in exact compliance with the requirements of the Explosives Act. Experiments with them have lately been carried out in some of the Cleveland ironstone mines, at which Messrs. Toynce and Dunn, the agent and secretary of the Cleveland Ironstone Miners' Association, have been present. So favourably have they been impressed by the efficiency of the cartridges that they have recommended the miners to go in for their adoption. Messrs. Macnay and Co. also showed the "Oleojector," or injector-lubricator (Royle's patent), which has been adopted by a large number of iron and coal companies. It is a new invention for lubricating steam-engine cylinders and slide-valves. It supplies the oil in constant, regular, and measured quantity, entirely under the control of the engineman. Mr. A. Wilson, of the firm of Howson and Wilson, engineers, Middlesbrough, exhibited a model of his well-known gas producer for firing every description of furnace. This we have referred to several times in these columns, and have also described at length. It has been largely adopted, not only in this country, but also on the Continent and in America, where its merits and economy are fully appreciated by those who have it in use. It has been applied for refining iron, puddling, steel melting, plate heating, copper-plate heating, heating core stoves and moulds in foundry, annealing wire, glazing art pottery, drying salt, melting glass, annealing tin-plates, smelting nickel, tube welding, distilling phosphorus, &c. It has been found useful, especially in the Lancashire chemical and glass works, as the substance under operation is kept clean and pure. In puddling, heating, and other metallurgical furnaces the admission of air can at all times be easily and certainly regulated so as to obtain either an oxidising or reducing flame. Under the old system to gasify 4 cwt. of coal requires an apparatus occupying 361 square feet, but the Wilson producer to do the same work takes up only 126 square feet. The first cost to do a given amount of work in a given time is one-third that of the old system.

THE SALT DEPOSIT AT MIDDLESBROUGH.—Good samples, cores brought up by the borer, have now been got from this valuable salt bed, which is 100 ft. in thickness, and supposed to be of enormous area. It is proposed by Messrs. Bell Brothers to work the salt bed by means of two tubes put down this bore hole one within the other, the larger tube being 24 in., and the smaller 12 in. in diameter. Fresh water will be conveyed by the outer tube to the bottom of the salt bed, and when the brine rises in the smaller tube by the pressure in the larger one, as it is expected to do to a point about 300 ft. from the surface, a pump will be applied to pump it to the surface, when it will be run into ponds, and the manufacture will be carried out; it is expected, to the extent of 300 tons per day in the first instance. A good sale for the salt is expected to be made in the district at the chemical works, and it will be exported and sent coastwise also in considerable quantities. Chemical works will also be started in the Tees, at Port Clarence, at no distant date.

THE IRON TRADE.—The quarterly meeting, held at Middlesbrough, last week, passed off very quietly; business was flat, and but little has been done during the past week. Makers are fairly sold forward till the end of May in the majority of cases, and they will wait and watch events before committing themselves further. Makers will not take less than 1*s.* more than the current rates for the next three months. Connall's warrants are 163,768 tons, an increase of 1757 tons on the week. Quotations have been—No. 3, 38*s.* The low rates at present for manufactured iron, it is expected, will stimulate the demand. Orders are now coming in. Ship-plates are 6*l.* 2*s.* 6*d.*; bars, 5*l.* 5*s.* The steel rail trade is very busy. Heavy shipments of steel will be made to the United States and to other parts during the next two weeks from the River Tees, both in the shape of blooms and rails. Contracts for both to a large extent are now running, and with the increased production of steel at Eston it is certain that the exports for this and the two following months will be large. On Tuesday the market at Middlesbrough was very quiet, owing to the holidays, but the prices of most classes of iron have been steady, and there has been more enquiry, especially for manufactured, which has been a little firmer in price. Ship-plates, 6*l.* 2*s.* 6*d.* to 6*l.* 5*s.*; angles, 5*l.* 5*s.* to 5*l.* 5*s.* 6*d.*; bars, 5*l.* 5*s.*; puddled bars, 3*l.* 5*s.* net.

THE SEAHAM EXPLOSION.—The inquest on this case was closed on Wednesday last. The seat of the explosion appears not to have been determined; various opinions were expressed by the witnesses on this important point. The mining engineer engaged held the opinion that it was at the Polka way end, and that the gas might have come off from a fall which had occurred there, but if this were probable the gas must then have been fired at Ramshaw's safety-lamp. Mr. Atkinson, one of the Inspectors, held that the explosion had occurred at Brown's shot; the position of the men and the indications there proved that this shot had been fired immediately before or coincident with the explosion. He was unable to account for the presence of the gas. Mr. Foreman, one of the Durham Mines agents, and a practical pitman of some experience, was of the same opinion as Mr. Atkinson with regard to the seat of the explosion. He pointed out that the fall at the Polka way had occurred after the explosion, as the timbers had been blown out whole, and had not broken down

by the weight of stone. He also held the opinion that the coal dust contributed to the explosion. A joint report was put in by Mr. Willis, the Chief Inspector, and Mr. Bell, containing their views as to the seat of the explosion, and in the main they agreed with Mr. Atkinson. They considered that the explosion occurred either at the main coal staple or at the curve nearly opposite the Maudlin engine plane, where a shot had been fired coincident with the explosion. They did not consider it probable that the explosion had occurred at the Polka way end. The verdict of the jury was—"That the explosion took place, causing the death of Thomas Brown and others, on Sept. 8; but as to the seat of that explosion they had not been able to determine as to the question of firing of shots and the clearing away of the coal dust. They thought those matters might safely be left in the hands of the managers." It appears that another inquest is to be held when the Maudlin seam is opened on the bodies of the men still lying there. The main inquest is now closed in this very remarkable case, and the result is certainly very meagre. The seat of the explosion has not been determined, nor the origin of the gas which caused it. The most remarkable circumstance connected with it is that it occurred (at least all the witnesses concurred in this view) in the main intake air course, in a mine where there are two large shafts, and a very large quantity of air is in circulation. In ordinary circumstances an explosion at such a point appears to be impossible. The origin of the explosion, therefore, remains a mystery. The theory that the explosion occurred at the ventilating furnace was broached during the progress of the enquiry, but this view does not appear to have been taken by any of the experts engaged in the investigation. With respect to the effect produced by the coal dust present at the explosion it is clear that its influence was only to a very trifling extent, as there was no evidence of this dust being burnt in quantity, and no deposit of any consequence of coke in the timber or walls of the mine. It was agreed on all hands that the explosion was one of a very violent character, and its effects were most disastrous, both as regards the loss of life and damage to property, and it would certainly have been more satisfactory if the primary cause could have been ascertained, as some lessons might have been derived likely to lead to the prevention of such accidents in the future.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

April 21.—So far as regards the lead mines of Derbyshire there has been no change of late calling for special notice. The production of ore has been much as usual, for there has been no material increase for a considerable time past. The trade, indeed, is not what it was at one time, and when the Census Returns have been made public it is likely that the number of lead miners will be less than at the last decade. In all probability it will be found that the number of persons employed in connection with the lead mines in the county will not exceed 1400, if it reaches those figures. But were the minerals developed as they might be by the introduction of capital, there should be no difficulty in finding employment for double that number. Of late several companies have been started for the purpose of reopening and working abandoned mines in several districts, but no attention appears to have been paid to the many mines in Derbyshire that have long been standing, and there does not appear to be any apparent reason why they could not be worked at a profit.

Considering the time of year the collieries have been working well, and a steady business has been done in house coal for the Metropolitan, but prices have a drooping tendency, as is usually the case on the approach of fine weather. The Clay Company in particular have been doing well, sending at the rate of about 7000 tons per week to London alone. It may be said that the company send direct to consumers, having several depôts, and thus do away with the merchants' profit, for when colliery owners are selling at a loss, as many of them have done during the last two years, the middle-man was always sure to have a profit. The wonder is that coal owners have been so long quiescent, leaving the greater part of the trade in the hands of the merchants, who, of course, fix the prices, which are not based on what they have to pay at the pits. When coalowners become merchants in London and sell the coal direct to the consumers they will be placed in a position to do business at a profit, and at the same time benefit their customers. The sooner this takes place the better it will be for producers and consumers. Not much steam coal goes from the Midland field to the Metropolitan, but in other directions of late there has been an improvement with respect to it. In other descriptions of fuel there has been no change. The Iron Trade of Derbyshire is quieter than it has been, there being less demand in particular for pig, plate, and other rolled material. At Driffield there appears to be plenty doing in steel yards, some heavy orders being in demand for them.

In Sheffield business is not so brisk as it has been in some departments, but in some others there is considerable activity. Steel composite plates for vessels of war are now being extensively produced for our own Government as well as for France, and orders are expected from others of the continental powers. There are two descriptions of plates patented by the heads of the two great companies owning the Atlas and the Cyclops Works, and both are being well patronised. It may, however, be said that the first vessel of war using the steel composite plates was a foreigner, owned by the Government of the Argentine Republic. In ordinary ship and boiler, sheets and bars there has been a steady output. Makers of Bessemer rails are as busy as ever, but prices are low, the average, it is said, not being more than about 6*l.* 7*s.* 6*d.* a ton. The question of the railway rate to Liverpool and Hull for rails and other heavy material is now receiving a good deal of attention, for it depends in a great measure on the companies whether the trade is to fall off or increase, for our manufacturers cannot be expected to compete with those whose works are close to a seaport, and who have no railway rates to pay. Tires, axles, springs, and other railway material continue in steady request. In crucible steel rather more has been done of late, but there is plenty of room for improvement. In cutlery several houses are favourably off for orders, which principally run upon the best qualities of table knives. Inferior sorts, however, are still in but moderate request. File makers have become busier, heavy orders having just been received on Government account. The foundries are doing rather more in builders' castings and light work.

The coal trade of South Yorkshire is showing signs of a falling off so far as household qualities are concerned, and the men are not "putting in" so much time as they did. All signs of the late strike have passed away, and the men are working as usual, so that one hears no more of demands for increased wages; indeed, the reverse may be expected, for coal is lowering in price, and will, in all probability, continue to do so—that is, with respect to "softs." The South Yorkshire and the West Yorkshire Miners' Associations are likely to amalgamate, a resolution to that effect having lately been passed at a meeting held in Barnsley.

April 21.—The district continues in a very quiet state, so far as the miners are concerned, and disputes appear to be now out of the question. There being nothing of any moment to discuss, an effort has been made to amalgamate the two associations, the one having its head-quarters at Barnsley and the other at Rotherham; but the latter appears to have declined the honour. An amalgamation, however, has been arranged between the South Yorkshire and West Yorkshire Associations, which, it is to be hoped, will be beneficial to both. When this is carried out, in all probability a sliding scale of wages will be adopted, and which will be beneficial to the parties interested, preventing disputes and strikes. Work at the collieries has become general, but at some of them the men have not been doing more than four days a week, and where more is made the men are not so well off, for in many pits the hands are too numerous, so that there have been complaints with respect to the wagons not being sufficient. In house coal there is not so much doing at several of the collieries as there was doing last month, and prices are not so firm. The London trade has been tolerably good up to a week or two since, but it has now become much quieter. During March, it may be said, less than 400 tons of coals were sent from Mitchell's Main to London, the usual quantity having been nearer 2000 tons a month. Derfield, too, sent in the same period less than 200 tons, instead of 2000 tons; and several other pits were placed in a similar

position. This was greatly to the benefit of other collieries, where the men continued at work, either owing to an advance of wages or otherwise. Thus Messrs. Newton, Chambers, and Co. sent to London in March upwards of 16,000 tons of coal, Birley Silkstone 11,700 tons, and Carlton 2400 tons. But there has lately been a considerable change, owing to the collieries that were standing being now at work, so that the trades will be again divided, as before. But the demand, of course, will now gradually get less, and there is every prospect of prices coming down to a lower point than they now are. Steam coal is meeting with a better sale, and in another two or three weeks it is expected that there will be a heavy demand for shipment; but it remains to be seen whether colliery owners will make a sacrifice first by stacking a large quantity of soft coal which it would necessitate. A steady business continues to be done in coke.

In coal mines, the Act of Parliament requires that an amount of ventilation shall always be maintained to neutralise the effects of the gas, but on board ships, having hundreds of tons of coal closely batted down without any air whatever, there are no such regulations, and hence it is to be feared many vessels are yearly lost not from storms, but from fires, which is in many cases far more to be dreaded by the mariner who trusts himself on board a vessel laden with coal. Shippers might do a good deal to prevent the probability of an accident from the gas in coal by securing a quality that gave off the least possible quantity of gas. Hard or steam coal is that which is the safest, and always secures the most money on markets abroad, seeing that it can be delivered in large pieces instead of in cobbles or slack. We have never heard of a coal vessel from the Humber to the North of Europe being lost by the gas or spontaneous combustion, in consequence of the hardness and the little gas given off. This shows that greater attention should be paid to the coal sent away, more particularly on a long voyage. At the same time we think that rules should be laid down for the guidance of captains in the command of vessels having cargoes of coal by which ventilation should be secured, and the means laid down, and the observation daily entered in the log. Were this done, there would be very few disasters at sea from gas in the coal carried by them.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

April 21.—In concluding my notice of the lead ore deposits of the North Wales limestone, I would first observe that the east and west lodes—or, more strictly, the north-west and south-east lodes—are the most productive of metallic ores. Of these, those of considerable magnitude which accompany great displacements of strata are richest, the most productive of the old historic mines having been placed upon these. The lodes which have been formed along simple cracks of shrinkage are less productive, and the deposits are not of great extent. In the former lodes the ore occurs in runs, some of them of great length horizontally—100 to 150 fms.—and most of them having a dip south-eastward under the coal measures. As a rule, the north and south lodes are not productive where they are so near the points where the east and west lodes infringe upon them. Another apparent exception is in the case of the pocket lodes, which have a general north and south direction. Of these there are many towards the north end of Halkyn Mountain, and from thence to Holywell. The productiveness of the lodes is also affected by the character of the strata they pass through. In the strata below the limestone beds, whether Old Red Sandstone, Wenlock shale, or the Caradoc and Bala beds, the lodes as they enter these strata cease to be productive. In the massive lower limestone beds—the lowest division, as defined at the commencement—the lodes are pinched and pockety, and there are not runs of ore of the strength and length there are in the next division higher up. Now, as along the western half or third of the breadth of the limestone belt these beds rise up from beneath the middle division we see at once the reason why the mines are fewer, and have been less successful, along the western side of the belt than they have been and are on the eastern side. Here, too, lies the secret of the mistake of Cornish mining captains when they first come into this part of Wales—"Let us go down. The mine is not deep enough." It is when passing through the middle division of the limestone beds that the lodes are most productive. The upper division of dark limestones and shales, full of fossils, is for the most part unproductive ground, but in the grits sandstone and thin limestone, which overlie these, rich deposits of ore have been found chiefly in the flats lying along the junction of beds, as before described, and on the lodes by which they are connected vertically. Now, this general arrangement of the ores is affected by the displacement of strata, and some great lodes—the Minera, for example—is more or less productive from top to bottom, because the lower limestones are brought up against the middle, and the middle against the upper, and productive rocks against unproductive shales. Even in these cases the different degrees of productiveness in a lode vertically confirm the general rule.

Such is an outline of the principle facts connected with the limestone ores of North Wales. The readers of this description can apply the general rules to their particular mines. The district has a rich mining history which could be best written by many hands. It is no breach of confidence to say that Mr. Edward Williams, of Wrexham, the respected manager of the Park Mines, has an interesting collection of historical details connected with mining in Denbighshire. I wish he could be induced to publish them in the Journal. Talking of the last-named mines, perhaps there is no other spot in the kingdom than the high ground about them where a spectator could look over such an expanse of country with so many lead mining districts in it as from thence. Northwards the limestone ridges with their mines stretch away to the east of the Dee. Eastward the view stretches over the great plain of Cheshire to the limestone hills of Derbyshire—the eastern outcrop of the strata on which the spectator stands—with their numerous mines and ancient history. Westward the eye rests on the peaks of the hills of the mining region of Llanrwst. Southward we look up the valley of the Severn towards Llanidloes, the Van and the other mines of Montgomeryshire. South-eastward across the plain are the Stiperstones, with the rich little lead district of Shropshire lying along their slopes, and the great white heaps of the Snailbeach Mine glistening in the sun. Talking to a landowner in South Shropshire the other day, he said, speaking of Snailbeach, that some relations of his had put 5000. into this mine nearly a hundred years ago, and until very recently they had received 7000. a year ever since. It is reported that a strong company are about to work Perkins Beach Mine on an efficient and extensive scale; this is just what this mine wants. With Snailbeach on one side and Tankerville on the other, and on the same run of strata, and the sett reticulated with lodes having many runs of ore throughout to be a good mine. Doubtless it will be when anything like the depth of its neighbours is gained, and this is, I believe, the opinion of the old miners of the district. When will the old miners of this interesting district begin to contribute little bits of its past history to these pages? Shall I follow the example given in another place, and name one or two who could? Just another question, what is South Roman Gravels doing now?

IRON AND STEEL INSTITUTE.—At the annual meeting, on May 4 and following days, the Bessemer Medal for 1881 will be presented to Mr. W. Menelaus, and the President-Elect, Mr. Josiah J. Smith, will deliver his inaugural address. Papers will be read "On the Results of Experiments relative to Corrosion in Iron and Steel," by Mr. William Parker, of Lloyd's Registry, London; "On the Manufacture of Armour-plates," by Mr. Alexander Wilson, Sheffield; "On the Manufacture of Steel and Steel-plates in Russia," by Mr. Sergius Kern, St. Petersburg; "On the Use of Steel for Shipbuilding," by Mr. William Denny, Dumbarton; "On Some Physical Properties of Cast-iron," by Mr. Charles Markham, Staveley; "On the Desulphurisation of Iron," by Mr. Rollet, St. Chamond, France; "On Iron and Steel Permanent Way," by Mr. R. Price Williams, London; "On Hydraulic Appliances for the Bessemer Process," by Mr. Michael Scott, London; "On the Manufacture of Bessemer Steel and Steel Rails in America," by Capt. Jones, Edgar Thomson Steelworks, Pittsburgh, U.S.A.; "On Hydrogen and Carbonic Oxide in Iron and Steel," by Mr. John Parry, Ebbw Vale; "On the Preservation of Iron and Steel Surfaces," by Mr. George Bower, St. Neots. And "On a New Method

for the Determination of Oxygen in Iron and Steel," by Alex. E. Tucker, Rhymney.

PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share-dealer, Redruth (April 21), writes:—Our market has been very quiet during the week, and the intervention of the Easter holidays checked business. East Pools close at a good advance on last week's quotations. Carn Brea sub-divided shares are 21½, 22. Prices of other shares have not much changed. The following are to-day's prices:—Blue Hills, 3½ to 3¾; Carn Brea, 21½ to 22; Cook's Kitchen, 12 to 12½; Dolcoath, 55½ to 56½; East Pool, 36½ to 37; Mellanear, 5 to 5½; New Cook's Kitchen, 6 to 6½; North Busy, ¾ to 1; Penhalls, 1½ to 1¾; Pen-an-drea, 3½ to 3¾; South Corndurow, 8½ to 9½; ex div. South Crofty, 8½ to 9; South Frances, 10 to 10½; Tincroft, 18½ to 19½; West Basset, 14 to 14½; West Frances, 11 to 11½; West Tregus, 15 to 15½; West Poldice, 4 to 4½; West Tregus, 35 to 35½; Wheal Agar, 10½ to 10¾; Wheal Basset, 5 to 5½; Wheal Boys, 2½ to 2¾; Wheal Comford, 3½ to 4; Wheal Grenville, 9 to 9½; Wheal Jane, 10s. to 10½; Wheal Jewell, 15s. to 20s.; Wheal Kitty, 2½ to 2¾; Wheal Pevor, 18½ to 19½; Wheal Prussia, 1½ to 2; Wheal Ury, 2½ to 2¾. Cornish Bank, 23½.

—Mr. J. H. REYNOLDS, stock and share broker, Redruth (April 21), writes:—A steady business has been doing in all the leading shares during the week. East Pools have improved, buyers 35½. Carn Brea scarcely so firm as before the meeting. Wheal Agars in demand at 10½. Subjoined are closing prices:—Blue Hills, 3½ to 3¾; Carn Brea, 21½ to 22; Cook's Kitchen, 12½ to 12¾; Dolcoath, 55½ to 56; East Pool, 36½ to 37; Gunnislake (Clitters), 4 to 4½; Levant, 4 to 6; Marke Valley, 1½ to 1¾; Mellanear, 5 to 5½; New Cook's Kitchen, 6½ to 6¾; North Busy, 15s. to 20s.; North Herodsfoot, 10s. to 15s.; North Penstruthal, 1 to 1½; Pen-an-drea, 3½ to 3¾; Pendarves United, 4 to 6; Phoenix, 3½ to 4; Penhalls, 1½ to 2; South Caradon, 60 to 65; South Corndurow, 9½ to 10; South Crofty, 9 to 9½; South Frances, 10 to 10½; Tincroft, 18½ to 19; Trugo, 1½ to 1¾; West Basset, 14 to 14½; West Frances, 11½ to 11¾; West Pevor, 15½ to 16; West Poldice, 4 to 4½; West Tregus, 22 to 24; West Tregus, 35 to 40; Wheal Agar, 10½ to 10¾; Wheal Basset, 5½ to 5¾; Wheal Boys, 2½ to 2¾; Wheal Comford, 3½ to 4; Wheal Grenville, 9 to 9½; Wheal Jane, 10s. to 10½; Wheal Jewell, 15s. to 20s.; Wheal Kitty, 2½ to 2¾; Wheal Pevor, 18½ to 19½; Wheal Prussia, 1½ to 2; Wheal Ury, 2½ to 2¾. Cornish Bank, 23½.

—Mr. M. W. BAWDEN, Liskeard (April 21), writes:—The mining market is dull and inactive, with but few transactions, business mostly confined to Carn Brea, Phoenix United, South Frances, Tincroft, and Wheal Agars shares, which have been in request at improved prices. At Phoenix United mines meeting, held on the mine to-day, the accounts showed a profit on the sixteen weeks' working of 1748½. Subjoined are the closing prices:—Bedford United, 2½ to 2¾; Carn Brea, 22 to 23; Gunnislake (Clitters), 4 to 4½; Cook's Kitchen, 12½ to 12¾; Devon Consols, 11½ to 12; Devon Great Union, 12 to 12½; East Caradon, 1½ to 1¾; East Croby, ¾ to ¾½; East Herodsfoot, 1 to 1½; East Pool, 36 to 36½; Gawton United, 1 to 1½; Glasgow Caradon, 3½ to 4; Herodsfoot, ¾ to ¾½; Hington Down, 1½ to 1¾; Kit Hill Consols, ¾ prem.; Lady Bertha, ¾ to ¾½; Marke Valley, 1½ to 1¾; New West Caradon, ¾ to ¾½; North Herodsfoot, ¾ to ¾½; Old Gunnislake, ¾ to ¾½; Phoenix United, 4 to 4½; Prince of Wales, 1 to 1½; South Caradon, 60 to 62; South Croby, 9 to 9½; South Devon United, 3 to 3½; South Frances, 10½ to 10¾; Tincroft, 18½ to 19; West Basset, 14½ to 15; West Caradon, ¾ to ¾½; West Croby, ¾ to ¾½; West Frances, 11½ to 12; West Mary Ann, 1 to 1½; West Phoenix, 1½ to 2; Wheal Agar, 10½ to 10¾; Wheal Basset, 5 to 5½; Wheal Grenville, 9 to 9½; Wheal Jane, 10s. to 10½; Wheal Jewell, 15s. to 20s.; Wheal Kitty, 2½ to 2¾; Wheal Pevor, 18½ to 19½; Wheal Prussia, 1½ to 2; Wheal Ury, 2½ to 2¾.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (April 21), write:—The holiday influence has pervaded the markets, throughout which, together with an actual loss of two business days following on to a very dull state of things, cause us to have to record little else save the paucity of movements, both as regards transactions and variations in values. The former are few in number, and the latter both few and unimportant. The movement in anticipation of Easter traffic has not been upheld, consequent to some extent, probably, on the uncertain aspect once more unfolded in the matter of the latest form of the Eastern Question, coupled with a realisation of railway income falling short of expectations. Under these circumstances we have only to report a dull market, and, considering the influences, forbear to compare with last or late weeks.

The movements of prices in both BANKS and INSURANCE are all better, though there are none worth special mention, nor do the transactions in these classes evoke any remark.

IN IRON, COAL, &c., AND MINING the movements generally are adverse, but with the exception of a fall in Tredgar, A. of 1, Knowles ½, Cammells ½, and Ebbw Vale ½, they are not noteworthy. COTTON SPINNING AND MANUFACTURING maintain the advance lately noted, but not many dealings are concluded.—TELEGRAMS show a little stir, Anglos of all issues being more or less advanced, the Preference especially. Globes of both issues and Direct U.S. Cable are both better, whilst Western and Brazilian, West Indian and Panama are all slightly easier.—MISCELLANEOUS show very few variations, being confined to a rise of ¼ in W.I. and Pacific Steamship, and a fall of ½ each on Manchester Carriage, A. and Southport Botanical Gardens.

RAILWAYS.—Since our last report the holidays have caused an almost entire absence of business. Fluctuations have occurred in Scotch stocks and Brighton A's, but at to-day's close only trifling changes are shown. The strength gained in anticipation of Easter traffic has been lost, the takings having been indifferent. Canadians quote but fractional alterations, though they improved yesterday in hopes of a good Grand Trunk traffic to-day; this, however, has not resulted in their maintaining the best price obtained this morning. In Americans the New York, Pennsylvania, and Ohio First and Second Mortgage came in for a severe shaking to-day, closing, however, above the opening. Philadelphia and Readings fell on the Times' remarks respecting the deferred bonds trial in New York, which materially affected both descriptions rather heavily. Other lines are also down in sympathy with the lower prices from the other side.

HULL.—Mr. W. FOWLER SUTTON, stock and share broker, St. Mary's Chambers (April 21), writes:—The railway markets are completely stagnant, and void of animation, owing in a great measure doubtless to the Easter holidays and the unfavourable weather; and the end of the account being now very near it is hardly to be expected we shall experience any particular change meanwhile unless anything of importance transpires relative to Greek or Tunisian affairs. The latter at present seems of small moment, but there are those who see a possibility of disturbance between Italy and France over it, and, therefore, the position should be watched carefully. Trunks and Canadas firm, especially the latter. American stocks weak and uncertain. Local stocks quiet—without change. Hull Banks, 12½; London and Yorkshire, 33s.; Yorkshire, 25½; Hull Docks, 85; Hull Trams, 9½; Earle's Shipbuilding, 20.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (April 14), writes:—During the past week the markets have been quiet, owing to the Easter holidays intervening, but the favourable weather along with the firmer tendency in the iron market has made prices firmer.

In shares of coal, iron, and steel companies prices are generally lower. Clyde Coal have advanced 6s. per share and Marbella 2s., but Shotts Iron have declined 2½. per share, Monkland (preference) 9s., Scottish-Australian 7s. 6d., ditto (new) 5s., Monkland 2s. 6d., Glasgow Port Washington 3s., and Ebbw Vale 2s. 6d. In the Scotch pig-iron market notwithstanding the holiday influences prices have been firmer, and warrants advanced from 47s. 6½d. to 48s. 6d. The "bear" account seems to form an element of support to the market, although the statistical position continues unfavourable, the demand being small, and production on a large scale. There is also no sign of the American demand being renewed, but it appears likely the demand for the colonies may be considerable. Benhar shares are steady, at 10s. to 11s.; preference also offered. Bilbaw Iron are at 29½ to 29¾; Bilson and Crump Meadow Colliery, 60s.; Boleckow, Vaughan, 26½ to 27; Cardiff and Swansea Coal, 45s.; Chapel House Colliery, 13s. 9d.; Clyde Coal, 70s. to 79s.; Ebbw Vale, 8½ to 9½; Henry Briggs, A. 10½; Lofthouse Colliery, 40s. to 60s.; Marbella, 93s. to 95s.; Monkland Iron and Coal, 32s. 6d. to 33s. 6d.; ditto (pref.), 62s. 6d. to 65s.; Oakham Colliery (pref.), 5s.; Onna and Cleland, 28s. to 28½; Onilwyn and Dulais, 60s.; Shotts Iron, 65s.; and Steel Company of Scotland, 10½ to 10¾.

In shares of foreign copper concerns Rio Tinto have advanced 7s. 6d. per share, but Tharsis (new) have declined 1½. 5s.; ditto (10½. paid), 7s. 6d.; Panulicillo, 3s. 9d.; and Canadian, 1s. 6d. Tharsis opened at 38½, but have since declined to 38 to 38½. Canadian Copper are at 39s. to 41s.; Huntington, 52s. 6d. to 57s. 6d.; Panulicillo, 6 to 6½; Rio Tinto, 23 to 23½; Santa Cruz Silver, 2s. 6d. prem.; York Peninsula, 5s.; and ditto (pref.), 17s. 6d. to 20s.

In shares of home mines there is really nothing doing. The dull and drooping state of the metal markets affording no inducement to purchase. Blaen Caelan are at 21s.; Bwlch United, 30s.; Cambrian, 10s.; Caron, 30s.; Cwm Pryf, 6s. 3d.; Denbighshire Consols, 60s.; East Buller, 12s. 6d.; East Roman Gravel, 12s. 6d. to 15s.; East Chiverton, 25s. to 35s.; Fortescue (Stannagwyn), 30s.; Gawton, 24s.; Great Wharf Polgoth, 17s. 6d. to 20s.; Indian Queens, 25s. to 35s.; Killifreth, 5s. to 7s. 6d.; Lady Ashburton, 21s.; Llanrwst, 2s. 6d.; Marke Valley, 27s. 6d.; North D'Esby, 20s.; North Hendre, 5s.; North Molton, 6s. 6d.; North Penstruthal, 30s.; Old Shepherds Mine, 10s. to 20s. prem.; Pandora, 12s. 6d. to 15s.; Parka Consols, 30s.; Phoenix United, 70s. to 80s.; Pant-y-Mwyn, 17s. 6d. to 20s.; South Croby, 15s. 6d.; South D'Esby, 8s. 9d.; Tamar, 15s. to 25s.; Tincroft, 30s. to 40s.; Van, 8½ to 9½; Van United, 7s. to 8s.; West Pateley, 20s. to 30s.; and Wheal Pevor, 40s.

In shares of oil companies Young's Paraffin have advanced 2s. 6d. per share, and Broxburn 1s. 2d., but Uphall have declined 1s. 6d. per share, and Oakbank 4s.

Young's Paraffin have been sold from 11½. 1s. 3d. to 11½. 3s. 9d.

In shares of miscellaneous companies there is no particular alteration to notice. Lawes' Chemical are at 5½ to 5¾; Montrose Slate Quarries 12½ per Cent. Debentures, 15s.; Newcastle Chemical, 65s. to 75s.; and Staffordshire Rolling Stock, 19s. 6d.

On Contango-day the following were the rates of continuation current:—

Contangos: 1d. ½d. on Benhar Coal; 2d. 1½d. on Canadian Copper; even, ¾d. 1d. on Clyde Coal; 1s. 3d. on Ebbw Vale; even, 1d. ½d. on Caradon; 1d. on New, 3d. on Glasgow Port Washington; 3d. 1d. on Huntington; 1½d. 1d. ½d. on Marbella; 1½d. on Monkland Iron; 3d. on pref.; 1d. on Onna; 6d. 4½d. on Panulicillo; 2d. on Parry's Copper; 7d. on South Indian; even, 6d. on Steel Company; 5d. on New; 2s. 2s. 3d. on Tharsis; 9d. on Wheal Croby; 1s. on Wheal Grenville; 2s. on Broxburn; 1s. 8d. on New; even, 6d. on Paraffin, Backwardations: 3d. on Rio Tinto; 6d. 1s. on Uphall Oil; even, Caradon. On comparing the making-up prices current to-day for the undermentioned shares compared with those current at last settlement for the same shares the variations thus shown to have taken place during account are as follows:—Richmonds have advanced 1½. 7s. 6d. per share; Steel Company of Scotland, 15s.; ditto (New), 15s.; Broxburn Oil, 15s.; Marbella, 12s.; Rio Tinto, 10s.; Monkland (pref.), 4s.; Uphall Oil, 3s. 9d.; Glasgow Caradon, 3s.; Huntington, 2s. 6d.; Glasgow Port Washington, 2s.; Onna and Cleland, 2s. On the other hand, Tharsis have declined 12s. 6d. per share; Clyde, 6s.; Tharsis (new), 5s.; Young's Paraffin 5s.; Glasgow Caradon (new), and Monkland, 1s. The remainder are unaltered, Panulicillo, Broxburn (New), and Oakbank Oil.

MONKLAND IRON AND COAL COMPANY.—The adjourned meeting of this company adopted and confirmed the agreement, referred to in a previous report, with the proposed Monkland Debenture Company, and authorised the necessary issue of debentures to carry it out. The prospectus of the Debenture Company has, therefore, been published, from which it appears the principle on which the project is based is quite the same as in the case of those numerous colonial land mortgage or investment companies which have proved so successful—borrowing on debentures at a low rate of interest, and lending at a higher rate. The capital will be 200,000l., in 5l. shares, only 1s. per share to be called. The borrowing powers are limited to the amount subscribed, but uncalled and the whole amount so borrowed along with the paid-up capital will be lent to the Iron and Coal Company upon the security of their works and assets, which are valued as a going concern at 317,964l. The debts, after deducting floating stocks, &c., show a difference against the company of 37,037l., so the margin of security is ample.

EAST LONG RAKE.—A splendid discovery of lead has been made in this mine by driving the 50 ft. level west, that is towards the Old Long Rake Mine, which has produced tens of thousands of tons of lead; it is a well known fact that there was no scarcity of lead in Old Rake when it was abandoned, but they were simply overpowered with water. In East Long Rake they have a swallow or subterranean water course which takes all the water without any pumping machinery, consequently if they only get the same quantity of lead as was found in the old mine they will be able to pay dividends of 20,000l. per annum, and it is the opinion of some of the best mining men in the district that East Long Rake will be found to be even more prolific than the old mine ever was; at any rate the mine is opening out very rich, and is looked upon in the district as second only to the North Hendre Mine, which continues as rich as ever. Shares at present are obtainable at 30s. to 35s., but are likely they say to advance to double that price in a short time.

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and share-brokers, Princes-street (April 20), write:—There has been little doing since Thursday last on the Stock Exchange, and the changes in home railway stocks are unimportant. American stocks were very flat yesterday, but have recovered to-day. In mines, Clyde Coal have recovered from 71s. 6d. to 79s.; Marbella Iron Ore have advanced 92s. 6d. to 94s. 6d.; Monkland Iron, Guaranteed, have receded from 73s. to 67s.; Oakbank Oil have been weak. Bank and Insurance shares have been steady.

IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

DUBLIN, April 21.—There is really extremely little to say this week with regard to the general markets, and transactions in mining shares have been scarcely heard of. Almost the sole exceptions are a few dealings in Berehaven Mine shares, and even here there has been some difficulty in obtaining previous prices.

CORK.—Messrs. J. H. CARROLL and SONS, stock and share brokers, South Mall April 20, write:—Markets have all been better the past few days, especially Bank shares. Great Southern were done at 112½ to-day, and Midlands at 83½. Bandons dull, at 85. National Banks advanced to 70, and Munsters to 7½; Hibernian to 47, and Provincials to 61½. Cork Steam Packets remain at 12½ to 12¾, and Lyons shares 5 to 5½. Daly's are 3 to 3½; and Goulding's 9½. Gas shares steady at 7½, and Levy's were bought at 4½.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS
MINEOWNERS, STOCK AND SHARE DEALERS, &c
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

The 516 tons of ore sampled at Wheal Croby assays as follows:—103 tons, 6 per cent.; 94 tons, 6½; 90 tons, 6¾; 82 tons, 7¾; 77 tons, 8½; 70 tons, 6¾. We estimate this to bring about 16000l., or rather over that sum.

A week or two ago we stated that we were looking for a good discovery in the 96 ends at Prince of Wales Mine, and on Thursday last a telegram was received to the effect that "the 90 end west had very much improved to 2 ft. of copper ore." On the 14th the agent wrote "at the nearest point towards the end cut into we find it 2 ft. copper ore of rich quality." On the 18th it is described as 2 ft. wide in the middle of the lode "nearly solid ore." The ore of this mine was always very rich, and we trust this may prove an important discovery.

We understand that the Purser of South Frances has resigned, and that Mr. Walter Pike is a candidate for the appointment. He would make a good purser, and will no doubt be well supported.

The accounts at Carnarvon Copper show 3223½. 4s. 11d. in hand, besides 3000 shares in reserve. It is hoped the mine will soon come into a profitable state, and it is one of the best specs going.

We know nothing of the concern about which a "Poor Shareholder" writes, and cannot answer the questions.

One or two large shareholders in South Frances Mine, not unkindly perhaps of what we wrote respecting it when large dividends were being paid improperly, have written us and expressed their desire to see the mine carried on in a consistent, miner-like, and straightforward manner, making its permanent success, and not market fluctuations, the main object, and they ask us if we will join in a movement for this object, and advocate its general adoption. This we have great pleasure in doing, and shall be happy to receive communications from shareholders desirous also of bringing about a consummation so devoutly to be wished. During the time that we wrote so much against the management a year or more ago, we always admitted the value of the mine itself, and regretted to see its prosperity ruined, as it seemed to us for market purposes. That our strictures were correct its present condition proves, and we are satisfied that by proper management it may yet be made a fine and lasting property. But, as one large shareholder writes us—"What we want to do is to prevent half-a-dozen shareholders and small tradesmen being able to do with the mine as they please when the adventurers are supposed to be met together for consultation at general meetings." We shall be happy to place any shareholder willing to co-operate in communication with our correspondents, and would, indeed, strongly advise joint and immediate action, and the present is a very good time for it.

The Wheal Croby ore realised 16200. 17s.

It was stated at the Parys meeting, and the plans show it, that of the great opencast which yielded five millions sterling, Parys Mine has two-thirds and the Mona one-third; and now that boring machinery is in full work at Parys the 90 cross-cut under the opencast will soon develop it. It was also said that now, after a large preliminary expenditure, more than double the present returns of copper ore could be made from ground opened, and at a good profit if copper would rise to 15s. per unit. At present prices it is useless to return it, merely for the view of announcing large samplings. Our own impression is that shares will have a good rise ere long; and we would not advise a sale.

At Morfa Du it was announced that large sales of bluestone had been made, and there was a good market for all that could be raised. Also that 150 tons per month would realise a profit equal to 12 to 15 per cent. upon the paid-up capital of the company.

Messrs. FRY, JAMES, and CO.—COPPER, in the continued absence of speculative dealings, has shown but little life, and although a good deal of Chilean has been taken for export and home uses there is a further decline in prices of about 15s. per ton in this description. The last Chili charters—3500 tons for

the first half of this month—although following upon three successive small charters caused a fall of fully 10s. per ton.—Inox is fairly steady in all descriptions.—Tin has fallen quiet, and gradually receded in price about 1s. per ton since our last.—SPELTER continues in slack demand, and is again rather lower in price.—LEAD also quiet, and lower in value.—TIN-PLATES steady.

SOUTH INDIAN AND GLENROCK GOLD MINING COMPANIES.

PRESENTATION TO MR. C. J. HARVEY.

On Monday, March 7, Mr. CHARLES J. HARVEY, General Manager of the above companies, was entertained at dinner, on the occasion of his retiring from the management, and presented with a scarf-pin, accompanied by the following address, engrossed on parchment, and suitably illuminated:—

"This parchment, with a gold diamond scarf-pin, was presented on the 7th March, 1881, to Charles J. Harvey, Esq., General Manager of the South Indian and Indian Glenrock Gold Mining Companies, by the undersigned officials and other gentlemen, on his retirement from management, and return to England, as a slight token of sincere respect, and appreciation of his uniform kindness and courtesy. His character as a gentleman, a manager, and a friend can scarcely be over-estimated, and, whilst expressing very deep and heartfelt regret at his departure our earnest hope is that the highest success may follow him in every sphere, and that the remaining years may be crowned with every happiness."

This address was signed by Messrs. Wm. Gifford, Robt. C. Syson, N. Coward, J. Hambley, J. Morrish, H. V. Ryan, J. Roberts, and Thomas Laing. The company, including in addition to the resident officials Mr. Jennings (secretary), Mr. Pinchin (successor to Mr. Harvey), &c., assembled at the Mango Tree Bungalow, Devallah, where a very sumptuous dinner was provided. Capt. Gifford, of the South Indian Company, presided, supported right and left, by Messrs. H. V. Ryan and R. C. Syson. The table having been cleared the usual loyal and patriotic toasts were given and responded to, after which the Chairman gave the toast of the evening.

In doing so, he said:—"No more pleasant and yet no more difficult task could have fallen to my lot than that I rise to perform. In proposing the health of, and success to, our guest of the evening, Mr. Harvey, it is not necessary, before this present company, to express our feelings towards him, or the high esteem in which he is held, not only among the officers of those two companies, but throughout the whole district. Had years passed, instead of months, since Mr. Harvey came against us, our regret at his leaving could not be greater. Indeed, so closely has his presence and interest been associated with these operations that it is difficult to believe the bond is being severed, and yet the proceedings of this evening but too clearly indicate this. However, 'it is the unexpected that happens,' and whilst we grudge his loss we wish for his prosperity in all things and in all places." Addressing Mr. Harvey, he said—"That you may carry with you a memento of the golden opinions you have won amongst us, it affords me the greatest pleasure to present to you in the name of the subscribers this diamond scarf-pin, not as a gift in itself of any worth, but that which carries with it something far greater, the esteem and regard of your officials and friends. We cannot help feeling that you will look back with just pride on the few months spent here, and we trust not unmingled with regret, as its associations are recalled. The address I am now about to read is cold and formal compared with the feelings which dictate it, still we hope it is sufficient to indicate our admiration of your many excellences. May your life be happy, and may you be long spared to look on these tokens of the regard formed for you here, and when you are called away to 'that country from whose bourne no traveller returns' may this descend as an heirloom to your children, and be a stimulus to them to follow a course which won for their ancestor the praise and respect of his fellow-men." (Applause.)

Mr. HARVEY, in replying, said:—"Gentlemen, I scarcely know how to thank you for this handsome and very unexpected gift. When you asked me here to dinner this evening I had no idea of being made the recipient of such kindness, and I think you will pardon me when I confess to feelings of very great satisfaction in receiving such a tangible assurance that my labours in conjunction with yourselves have your approbation and approval. There is always satisfaction in a sense of duty performed, and with the knowledge that the officials, one and all, have been at all times earnest to second my efforts. I can look back on these past months with very great pleasure indeed. It has always been my endeavour in every undertaking with which I have been connected to devote my whole energy to the work, and no operations have more commanded my attention than the development of these properties. With such hearty co-operation as I have had my labours have been light indeed, and it has been a great pleasure to me to be at the head of such a staff. The circumstances of my retirement need not here be referred to—suffice it to say that it was unavoidable, and that I leave regretting the loss of so many friends, whom I shall long continue to remember. Nothing would have given me greater pleasure than to have seen the machinery erected and set in motion; but, now that this cannot be, I shall be none the less interested in your work here. The token of your regard which I carry with me, though it cannot increase my respect for you, will help to carry my thoughts back to the scene of your toils, where I am with you in heart, if not in person. Permit me again, gentlemen, to thank you for this gift, and for the very kind manner in which you have entertained me."

The toast of "The South Indian and Indian Glenrock Gold Mining Companies," coupled with the name of Mr. A. Pinchin, was then given by the retiring manager. "It affords me," he said, "very great pleasure to meet my successor this evening in presence of the whole of the officials. The South Indian and Indian Glenrock Companies, though not the first established in the district, could favourably compare in point of progress with any of their neighbours, notwithstanding the startling paragraphs to which they were now and then treated in home journals. I have no hesitation in saying that these companies possess every element of success, and with time, patience, and judicious handling cannot but turn out well. A certain line of operations had already been laid down, which I hope Mr. Pinchin will endeavour as far as possible to carry out, as it had not been so determined without mature consideration. It certainly was a most unfortunate time to have a change in the management; I hope, however, things will continue to go on smoothly. Of this I have no doubt provided the officials took the same position and received the same considerate treatment I have endeavoured to give them. They have worked for me with a will. To them all credit was due, for I have no doubt they will do the same for Mr. Pinchin if he acts straight."

Mr. PINCHIN, replying, said:—"It was with very much diffidence I accepted the responsible position of succeeding such a competent and experienced gentleman in gold mining as Mr. Harvey. While feeling that I can hardly ever expect to carry to perfection what he has so well begun I hope with careful and cautious management, with the co-operation of the officials, and an endeavour to follow out the works as arranged, to ensure success."

The other toasts were—"The Secretary," by Mr. Harvey, supplemented by Mr. Coward; "The Officials," coupled with the name of Capt. Gifford, by Mr. Jennings; "Mr. H. V. Ryan," by Mr. Harvey, &c. The remainder of the evening was pleasantly spent in song and sentiment. The company parted after singing "Auld Lang Syne."

STATIONARY STEAM BOILERS.—The substance of special lectures delivered at the Bristol School of Mines in 1880, by Mr. WILLIAM MORGAN, F.G.S., C. and M.E., has just been published (London: Colliery Guardian Office, Essex-street) under the title of *Criticisms on Stationary Steam Boilers*, directed especially to matters of construction, tests of quality, and to the discriminating choice of boilers. Throughout the volume Mr. Morgan gives evidence of having closely studied the subject, and he conveys a large amount of information to his readers. There can be no doubt that engineers who have carefully studied Mr. Morgan's book will be in a much better position to form an opinion upon the relative merits of boilers, and they will moreover be able to seek for defects in any given class of boiler in so systematic a manner that none would be likely to escape him. The details given are at once concise and to the point, and will cer-

tainly be generally appreciated by all interested in the working of stationary steam boilers.

Meetings of Public Companies.

GREAT SOUTHERN MYSORE GOLD MINING COMPANY.

The statutory meeting of shareholders was held at the Cannon-street Hotel on Wednesday.—Capt. McTAGGART in the chair.

Mr. GOULD (the secretary) read the notice calling the meeting.

The CHAIRMAN said that this was only the statutory meeting of the company called within four months of the registration of the company, and in the nature of things, owing to the distance of the property from England, they could not expect to hear much information, and there was no formal business to be brought forward; but he was glad that the present meeting was to be held, because in the early stage of the life of a joint-stock company it brought the shareholders and the board together, and laid the foundation of that mutual confidence which he believed to be necessary for the success of such an undertaking. The whole board felt that one great element of success was confidence; therefore they intended always to give the shareholders the fullest information concerning the status of the company. They wished the shareholders to know everything which had been done, which was being done, and which was about to take place. When information came from the property it would be placed in the hands of the shareholders at the earliest possible moment; if it were of special importance it would be sent to the shareholders as a special report, and if of an ordinary character it would be published in the *Mining Journal*. There were some individuals who, when a gold mining company was published, without inquiring in what part of the world it was, or looking into the report, argued to themselves in this way:—"There is another bubble out; there is a gold-mining mania on, let me apply and get a large number of shares, and they will go to a high premium, and I will stick them at a high figure into someone else." The directors found they had sufficient capital to work the company to a success in the interests of those shareholders who applied in legitimate manner, as a dividend-paying investment, and they proceeded to an allotment, but owing to the whole not being subscribed, they were prevented from obtaining a Stock Exchange quotation. Then the shareholders to whom he alluded, tried by thick and thin to get out of the payment of the allotment money, and when the directors, who had no power to cancel the allotment, insisted upon their paying for the shares in the usual way, they went about saying all sorts of things concerning the actions of the board—things which they would not dare to say against a private individual. The directors regarded this company as sound and dividend-paying, and not as speculative; they had considerable knowledge of the property, and had taken an interest in it as a mining concern, and they had every reason to believe that this company would be one of the most successful before the public. (Hear, hear.)

He would briefly give them the history of the company to the present day. When the subscription list was first opened 27,000s. of shares were applied for. The purchase-money to be paid for the property was 32,000s. in cash, and 13,000s. in shares. The directors knew the property, and the results which it admitted of, and they said to the vendors—"Gentlemen, will you take the purchase-money in shares?" The vendors said they had great confidence, and knew the property to be good, but they could not take all the purchase-money in shares, as it would prevent them getting a quotation on the Stock Exchange; but they would take as large a proportion as they could in shares, which was 25,000s. Therefore, the directors, having ample margin of capital, proceeded to allotment, and the company was duly floated. It was four months since the company was registered, and much work had already been done, and even if no more money were subscribed the directors were in a position to do more than they promised in the prospectus. There was every reason why they should be crushing 75 tons of quartz instead of 50 tons by the end of the year. The exact position in which they now stood was as follows:—There were allotted, or about to be allotted, 63,500 shares, out of the whole total of 75,000 shares, and he hoped the shareholders would be so pleased with what they heard from the gold fields that the 11,500 shares would be subscribed amongst themselves, for it must surely be better to buy shares at par in a company whose details and management they knew than to buy at a very high premium of 200 or 300 per cent. in companies of which they knew nothing. (Hear, hear.) As soon as the rest of the money was subscribed the directors would obtain a Stock Exchange quotation. The next point was what had been done with the shareholders' property? What work had they performed, and how were they getting on? The news from the mine must be divided into two heads—the news from the company's own particular property and the news from the gold fields. Companies were sometimes fortunate in individuals, fortunate or unfortunate. This company had been exceedingly fortunate in the assistance it had been able to obtain. They had sent out Mr. Chas. Bray, a Cornishman, who was 15 years in charge of the Government gold mines in Siam, and had 2000 men under him. His reputation was world-wide. Mr. Bray referred the directors to a certain firm in the City, and upon the secretary going to the firm one of the members said:—"Have you really secured Mr. Charles Bray to manage the mine; you are very lucky," and the firm filled up an application form for 100 shares. The directors had appointed as his assistant Mr. Marsh, who had taken high honours at the School of Mines, and the services of those gentlemen had been secured upon very reasonable terms; they had gone out on very small salaries, having an honourable understanding that should they, by energy and good work, make this thing a great success, they should not be forgotten in regard to salary. (Hear, hear.) They had taken out certain depth of the cost more than any other, and also a carpenter and blacksmith, both of whom were known to Mr. Bray, and they had come to this company on a salary which they had refused from other companies. There had been shipped the necessary tools for the commencement of the work; the machinery for pumping, winding, and crushing was nearly all made, and would be shipped in the course of the next month, and he believed this would be the first company out of the companies started at about the same period to commence crushing. As regarded the news from the mining districts, a great deal of it came from the reports which had been issued by other companies. He himself was connected with some of the others. He would not enter into minute details, but would make a general statement, which he thought would be satisfactory. There was a block of land with five parallel reefs running through it. This block of land was occupied by several companies, amongst others by this company. The property had been surveyed and reported upon not by one mining expert but by many, and they all said there were at least five true fissure veins running through the property from end to end. A fissure vein really meant a vein which went to the centre of the earth. Nobody could get to the bottom of a true fissure vein, and the only thing which prevented its being mined was that when they got to a certain depth the cost was more than the worth of the gold. The whole place was covered with native workings and mining shafts, but do not suppose you have acquired a sucked-out orange. The natives had mined to the best of their ability and appliances, which had been very simple. The old workers had worked down to 70 ft., whilst the company could mine down to 2500 ft. and more. The old workers had only scratched the surface, but have shown us exactly where to go, and the managers could put their fingers upon valuable reefs without difficulty or trouble. There are two things if success in mining was to be achieved—the first was to have quantity, which they had; the next was the quality of the quartz. He would say a few words concerning the quality. There was a rumour published last week of a mining company in India, which stated that a crushing had resulted in an average of 27 ozs. to the ton. The shareholders must not live in a fool's paradise. He hoped for the sake of that company it was true, but he would show them what 27 ozs. to the ton meant—27 ozs. would be worth 100s., and if 100 tons of quartz per day could be crushed that would be 10,000s., which would be 3,000,000s. worth of gold in the year, 303 working days to the year, and deducting 30,000s. for working, that would leave 3,000,000s. of profit. Of course, such a thing never happened, and he thought never would happen. But the directors could promise this (hear, hear)—that in this company they could rely upon a steady average of 1 oz. per ton, which would be worth 3s. 10s. per oz. If they crushed 100 tons per working day that would give 105,000s., and deducting 30,000s. for working expenses, that would leave 75,000s. per year, which was 10 per cent. on the capital, and if this were continued steadily the company would be better worth investing in than speculating in. This company was formed to work upon a block of land which the Colar Company had had the option of purchasing within 12 months, and their manager, Dr. Atcherley, had sent home a report upon this company's property, dated March 21, and in that report he stated there were five parallel reefs running through the property north and south, and there were other outcrops near the main lodes, which would probably fall in and feed them. The latter went on to say there would be no difficulty in sinking, and that the veins were true fissure veins. This report was confirmatory of what the shareholders had heard before. Gold mining, then, had passed out of the region of uncertainty, and the only thing which could mar the success of the company was bad management, which the directors would do their best to avoid. They had done their work with all their might, and they had their hands strengthened by the active assistance of Mr. Gould, the secretary, to whom all the shareholders owed a debt of gratitude. He should be happy, both at the meeting and at the office of the company, to answer any questions which might be put. (Cheers.)

Mr. O'HAGAN asked how many shareholders there were, and also whether it was intended to apply for a Stock Exchange settlement when the remaining shares were taken up. He would ask whether the Chairman, who was a director of the Mysore Gold Mining Company, considered that reefs running through this property as valuable as those running through the Mysore. The shares of the Mysore Company were quoted at 200 per cent. prem. It might lead the shareholders to form some idea as to what the value of the shares in this company might be. The CHAIRMAN said there were 417 separate shareholders. They had taken 10, 20, 50, 100 shares, and so on, and he was glad that, as they would probably take more interest in the company than a few large capitalists. As soon as the remaining 11,500s. of capital was subscribed the board would at once make an application for a settlement, which no doubt would be granted in due course. With regard to the last question, to a certain extent he was at liberty to answer it. He had a personal knowledge of the property, and had carefully examined the reports, and those reports were unanimous that the same reefs ran through all the properties, and so far as he could see they were equally valuable throughout. The native workings extended along the whole, and the five veins were as valuable in one place as another. Gen. PROBLYN said there seemed to be an idea that at 80 and 90 feet there would be a considerable difficulty with the water. For his own part he did not share in that opinion. The CHAIRMAN said the difficulty about water was mythical. They would want all the water they could get. Hitherto the water had been kept under with a hand pump. A 5-in. pump would keep the Champion lode clear. The water was useful for milling purposes, and tanks were being made in every available place for storing it up. There was no fear of too much water. Timber could be easily obtained in Calicut, and fuel could be easily got. Good labour was abundant and cheap. There was a road from the Colar Road railway station to this property, a distance of only four miles, and machinery could be run up from the station to the property in a few hours.

Gen. PROBLYN asked whether it was easy to separate the gold from the quartz?

The CHAIRMAN said that, roughly speaking, gold existed in two different forms—in mechanical combination with quartz, and in chemical combination. Where it was a chemical combination the extraction was difficult, though many new processes were being patented for the purpose; where it was a mechanical combination the gold could be extracted by milling. On the company's property it was in mechanical combination, and extraction was easy.

Mr. O'HAGAN expressed his satisfaction with the clear and full explanation that had been given, and said if the shareholders took up 30 or 40 shares more each the whole of the capital would be subscribed, and they could get a Stock Exchange quotation. He said he was now a holder of 300 shares, but should be willing to take a further 500 after hearing the statement of the Chairman. (Hear, hear.) He moved a cordial vote of thanks to the Chairman and directors, including Mr. Gould.—Mr. PROBLYN seconded the resolution, which was put and carried, and the Chairman having acknowledged the compliment, the meeting broke up.

JAVALI COMPANY.

The thirteenth ordinary general meeting of this company was held at the offices, St. Swithin's-lane, on Wednesday, Sir LEOPOLD HEATH, K.C.B., in the chair.

Mr. EDWARD SCHUBERT (the secretary) read the notice convening the meeting, and the report of the directors was taken as read.

The CHAIRMAN said they had to meet the shareholders again with a comparatively unsatisfactory report. It was better than the report for 1879, and although he did not like forecasts in any mining company, and still less in this, yet he was bound to say in his own opinion and in that of the manager, it did look as if they should probably be a little better off this year. The principal event which had happened affecting their interests during the year 1880 had unquestionably been the lamented death of their manager, Mr. Hennecke. He was a gentleman who had the welfare of the company at heart, and was thoroughly conversant with all mining and reduction business. The directors had appointed in his stead as manager Mr. Chambers, who had served them for something like ten years, and they were busily attempting to find a reduction officer to send out to him as an assistant. Mr. Chambers had well earned his promotion; he went out something like ten years ago as their accountant, but from the very day of his arrival until the death of Mr. Hennecke he had always employed himself in other work besides that of mere accountant. He had given himself up to endeavour to learn the general work of the establishment, and he had been in fact a sort of assistant to each of their successive managers. He was, therefore, thoroughly up to all their affairs and all their processes, and they felt sure that in him they had not only a thoroughly upright and conscientious gentleman, one in whom they might put the most implicit reliance, but they also had a manager of complete practical knowledge, although he had not picked up that knowledge in schools or colleges. There was another event which incidentally affected them. Many of them were shareholders in the Chontales Company, and would know that that company recently sent out a very eminent mining engineer, Mr. Bell Davies, to inspect a portion of their property. He was not professionally concerned for this company, but as their mines were within a mile of the Chontales he naturally went and looked at them. In point of fact, he visited them several times, and he (Mr. Bell Davies) had had conversations with Mr. Chambers, and was kind enough on his return home to give them the impressions which he had formed of their establishment out there. He was glad to tell them that those impressions were of the most favourable nature. Mr. Davies said that he found that all the principal levels well put in, and in excellent condition, also all tramways kept in thorough repair; the mill had been well erected, and had been thoroughly well looked after, and he was much pleased with the general management and organisation, and the care and order in which the company's property was kept. They could not afford to employ Mr. Bell Davies professionally, but felt that the shareholders would all be very glad to have the opinion of a gentleman of such eminence even in this cursory manner. They had no sort of reason to doubt that their own managers had always been men thoroughly up to their work, still an independent opinion of this sort, an independent opinion, an opinion formed by a scientific gentleman on a cursory visit was very valuable, although not so complete and detailed as a report would have been. As to the work done in 1880, they published their letters monthly, and the shareholders really knew as much about them as the directors did themselves. They had been confined principally to the usual work, and in addition, there had been a beginning made in setting up four new square stamps. Their tailing mill was in the lower part of the stream, and it was proposed to work a mine called the Esperanza Mine, which, he believed, had never been worked by them, or at all events only in early days, because it was situated at a much lower level than their mills, and it would have cost a great deal of money to take the ore up to their mills. Now they had their tailing mills, and the stream brought down to it at considerable expense. They thought they might try the experiment of setting up a limited number of stamps to work the ore from that mine.

A SHAREHOLDER: With four stamps?—The CHAIRMAN: They had 12 stamps lying there. He did not know how long they had been there. They were not of the best description, but they were on the spot, and would cost nothing to put up, and if they should succeed by-and-by they might exchange them for more improved ones. As to the accounts, the comparison between the items of expenditure in the accounts they now submitted and the same items in the accounts a year ago showed a saving, on the whole, of something like 1300s., and there seemed to be a saving in every single item. The only two to which he would call special attention were the wages at the mine and the general expenses and cost of local stores; those two together came to 600s. less than they did at the corresponding time last year. He thought that was greatly to the credit of their local manager. The usual tables were given, and although there were diminished expenses the work done was much the same as last year—20,638 tons against 20,909. The ore had been of a slightly better grade—12s. 4d. per ton instead of 11s. 11d., and the result was a profit of 4s. 4d. instead of a loss of 3d. per ton. He did not think he had anything more to tell them. As to the coming year, he would proceed with the execution of those stamps, and they would proceed in the manner which Mr. Davies strongly recommended in his printed report to the Chontales, and which he had also suggested to this company—to work more vigorously at the underground workings. They had also a good discovery of manto, as would be seen by the last letter of the manager, which gave a good deal of promise. The tramway to that manto, and also to the Esperanza Mine, which was in the immediate neighbourhood of their tailing mill, were nearly completed.

A SHAREHOLDER: Has that been explored to any extent?—The CHAIRMAN: I have no record of its having been by us.

A SHAREHOLDER: Are there any visible workings?—The CHAIRMAN: Yes, there are the beginnings. In conclusion, the Chairman moved the adoption of the report and accounts for the year ending Dec. 31, 1880.

Mr. CHARLES GREEN seconded the motion.

A SHAREHOLDER asked whether the mantoes were surface deposits or underground?—The CHAIRMAN: Surface.

The SHAREHOLDER: Debris from previous working.—The CHAIRMAN: No; from degradation of lode. It is mixed up with clay to a great extent.

The SHAREHOLDER: It is very easy to work?—The CHAIRMAN: Very.

After a few further remarks, in which Mr. Robinson suggested that men should be put on to work on tribute, the motion for the adoption of the report was put and carried unanimously. Mr. Charles Green, the retiring director, was unanimously re-elected, as was also Mr. C. Frewer, the retiring auditor.

A vote of thanks to the Chairman and directors terminated the proceedings.

SOUTH CONDURROW MINING COMPANY.

A general meeting of adventurers in this mine was held at the offices, Austinfriars, on Wednesday, Mr. H. J. MARSHALL in the chair.

The SECRETARY having read the accounts,

The CHAIRMAN said it was their business to pass the accounts that had been read, and if any adventurer wished to inspect the figures of course he was at liberty to do so. He moved that the agents' report be received and passed, and a copy forwarded to each of the adventurers.—The motion was seconded by Mr. LEAK, and carried unanimously.

The agents' report was read as follows:—

April 18.—Since your last general meeting we have been engaged in sinking a new shaft in that part of the property directly to the west of Wheal Grenville. This new shaft (Marshall's) is communicated with a rise put up in the back of the 30. The men are now engaged cutting down the rise so as to make the shaft complete. In the meantime we have resumed the driving of the 42 below the surface west of winze on the Wheal Grenville lode, which is worth 12s. per fathom. The ground is easy for working, and looks congenial for tin. We have a great extent of unexplored ground before us on this lode, and we have a strong opinion that it will open out well. We have purchased a powerful steam winding-engine, with the view to the discharge of the stuff, and to assist in the rapid development of this part of the property. The 93 end east of King's shaft on the flat lode is worth 3s. per fathom. There are two stops working in the back of this level worth 10s. and 12s. per fathom respectively. The 80 end, east of King's, is unproductive, and has been so for some time, but the lode is of fair average size, and looks promising to improve. The rise in the back of this level is worth 9s. per fathom. We have resumed driving the 80 east of Plantation shaft. The lode has a kindly appearance, and is worth 3s. per fathom. The 70 east is disordered by a cross-branch, but we hope the lode will improve as we extend away from its influence. The slope in the bottom of this level east and west of winze, is worth 12s. per fathom. The copper lode below the 70, east of Plantation shaft, is worth 10s. per fathom. We are preparing a parcel of copper ore for sale. The 70 cross-cut south in the new ground referred to, is being urged on by six men. This cross-cut is some 50 or 60 fms. deeper than our present operations at Marshall's shaft, where the lode is valued at 12s. per fathom, and we hope, when it is intersected by the cross-cut, it will have increased in value at the greater depth. We have just passed through a branch in the 70 south, carrying rich stones of tin. We hope to intersect the main lode in three or four months, if the ground is favourable, and the dip or underlie the same as is seen in the winze below the 30. The 60, west of Plantation shaft, is worth 8s. per fathom, and it looks as if it is just entering a good run of ore ground. The 60 end, east of King's, is worth 10s. per fathom. The 50 east is worth 12s. per fathom. Two stops in the back of this level are worth 12s. per fathom each. The 40 east yields stones of tin. A rise in the back of this level is worth 10s. per fathom. We are keeping the 80 heads of stamps fully supplied, but the tinstone is harder than usual, and of poorer quality. The lode, however, in the new western ground carries good quality tinstone, and is easy to pulverise. We are opening out a new mine in the western ground, and on further development, we believe it will prove very productive.—W. RICH, W. WILLIAMS, H. KING.

The CHAIRMAN said the next resolution was that of the dividend. By the accounts the profit on the 16 weeks was 1505s. 12s. 5d. A 5s. dividend would absorb 1530s., and as it was so near the committee had decided to recommend for their adoption a 5s. dividend. They

had heard from Capt. Rich that the stuff was rather hard, but the price had been a little bit better than it was during the last period—some 2s. a ton; and they had also on the floors at the mine some 1000, or 1500, worth of copper ore, which would come into the next accounts of the company. The committee thought they were fully justified in taking 25s. from the balance which was necessary to make up the 5s. dividend. They were now driving to a new mine, what they might call a new mine, in the western ground. This cost them a good deal, but as yet they had nothing but favourable indications. They had no absolute tin, or the proceeds thereof, to divide, but the indications were good. There was really very little more to tell them with regard to the ground than they were told at the last meeting. The shaft had been sunk which had been called after himself, a great compliment Captain Rich had paid him, and he hoped it would be a very successful shaft. It had been very successfully driven so far, and the ground had not been very difficult. They were now within 6 or 7 fms. of the perpendicular of the shaft within 20 fms. of the lode, supposing it to maintain its underlie. At their next meeting they hoped to be able to tell them something about the western ground. As to the value of the lode, he could not prophesy, as the underlie might be shifted a little, but at any rate, by the next meeting they would have seen a little more of the lode in a shallow level, and he hoped they might be able to divide a little of the proceeds of the tin. He had seen it was a meaty lode, was easily crushed, and would yield well in tin. He had only to add that things were going on as usual, and he proposed that a dividend of 5s. be declared forthwith.

Mr. CLARK seconded the motion, which was carried *unanimously*.
An ADVENTURER asked how the old part of the mine was looking, and whether it would bear comparison with a year or eighteen months ago, and whether the changes had been for the worse or the better with regard to the old mine. Capt. RICH replied that about eighteen months ago they were about balanced; they had more tin, but they had a worse price. They paid a better dividend eighteen months ago, but the profit of 1500s. showed that there was a good profit now. They could not shut their eyes to the fact that they had passed through an arctic winter, and their stamps had been idle for a long time. When their stamps were idle for a week or two that time could not be recovered, because they had as much as they could do. They were opening up a new mine near the western part of the proceeds of the present mine; the profits made were in addition to developing the new part of the property. If they were making calls the profits would be so much greater. They had 200 fms. or 300 fms. entirely virgin ground. He might say with regard to the Marshall shaft he hoped it would pay the Chairman a very high compliment. He did not like to give his own name to it in case it should not prove rich enough. He thought they were in a very capital position, and were developing entirely new ground out of the proceeds of the old mine. He hoped they would have something better to say at the next meeting with regard to the shaft.

On the motion of Mr. LEAK, seconded by Mr. McKAY, the committee was re-elected, and a vote of thanks to the Chairman and his colleagues then terminated the proceedings.

NEW WHEEL KITTY.

A number of the adventurers in New Wheel Kitty met on the mine on Wednesday for the purpose of seeing the engine started, and the progress which had been made in the working of the mine. The mine was started to work the Wheel Kitty lodes, and the foundations of the engine-house were commenced to be sunk in November last, by the side of a shaft which had previously been sunk about 50 fms. The shaft has been cleared up for 30 fms., and the engine has been started to pump the water from this depth. It is a 36-in. engine, formerly worked at Wheel Charlotte, in the Towan district. It is in very good order, and the ceremony of starting the engine was performed by Mrs. J. B. Reynolds, of London, Mr. Reynolds being the Chairman of the committee, and the principal means of starting and carrying on West Kitty, New Wheel Kitty, and more recently the starting of West Polbreen. New Kitty includes North Polbreen sett, and a further grant, so that it extends from the boundary of Wheel Kitty, on the other side of the valley, to the boundary of West Polbreen, on St. Agnes Beacon. Before the engine was started a number of adventurers walked over the latter sett, under the guidance of Mr. Coultter Hancock, the purser, as well as New and West Kitty, and they were interested in seeing the extensive workings of the "old men" on the face of the Beacon.

The engine started very smoothly, and when it had made a stroke or two the miners of the three mines named, who had assembled to witness the event, started a hearty cheer. Three hearty cheers were also given for Mrs. Reynolds, and Mr. Reynolds returned thanks for her, and said she hoped the mine would turn out a successful property to give constant employment to them all, and bring comfort and well-being to their families.

The adventurers afterwards dined together at the Commercial Hotel, St. Agnes—Mr. REYNOLDS presiding, when an excellent dinner was put upon the table.

Before dinner the men were addressed shortly by the Rev. J. W. LANE, rector of Redruth, who said he believed they had no more devout set of working men in England than were in Cornwall. (Applause.) They were not Sunday Christians only, but during the week they carried with them what good they got on the Sunday down into the mine, and then they were ready, if an accident occurred, to go to their Lord. The best spectacle that ever a man made was to speculate in this world for eternity, and he hoped they would do that. (Applause.)

The Rev. J. J. COUSINS also said a few words, and expressed his hearty good wishes for them in their daily life and work. He was deeply impressed with the way in which the men in Cornwall had acted throughout the deep depression of the last few years; would that others had followed their example. The Cornishmen had borne the depression in the most manly, magnanimous, and even Christian way; and they deserved the respect of all Englishmen for the way in which they had conducted themselves. He hoped there were better times in store for Cornish mines. He had been through the three mines, and he thought the prospects were most satisfactory; and he hoped they should have those prospects fully realised, and that they would have prosperous times in connection with those three mines for all of them. (Applause.)

The adventurers afterwards dined together at the Commercial Hotel, St. Agnes—Mr. REYNOLDS presiding. An excellent dinner was put upon the table, and after dinner a number of interesting speeches were made, but we are obliged to hold a report of them over till next week.

The CHAIRMAN, after dinner, in proposing "Success to the Mine," said he had no balance-sheet or cantankerous shareholder on which to hang a speech, but they had seen for themselves the magnificent position of the property, and he thought they were convinced, whatever they might say, that in New Kitty they had a mine of great promise. (Hear, hear.) They had not sold New Kitty for 40,000s.; they had not 100,000s. capital, nominally or otherwise, but they had simply made calls of 5s. per share altogether, and the result they had seen. He could only hope that before long they would see other results. Of course, the mine had not been unwatered for 40 years, and they knew what was a large mine, and what was a small one, until they got the water out. They had never been told that when they got the water out they would see fabulous results in the shape of rich lodes. If they had told them that they should be in very anxious circumstances that day as promoters. No, for what was there they must wait until they got the water out and ascertained; but they had reason to believe that they would see something, or that their agents would see something for them if they would take the trouble to go underground when the mine was in fork, and that is really all they could say, and that, perhaps, was really more than they had ever said before. The government of West Kitty was not centred in him, and some of them would be surprised to hear that, but that was the fact. It was centred in Capt. Vivian, and his government was a government of surprises, something like that of the late Conservative Government. There was always something turning up, and the best of it was that what were constantly turning up were agreeable surprises to the shareholders in West Kitty. They had been told by Capt. Vivian that they had a lode now worth 40s. per fathom, and by way of a little surprise it had come out that the lode was worth 80s. per fathom. Capt. Vivian was their manager, and he should not interfere with him, as he agreed with a government of surprises as long as it was in the right direction, and Capt. Vivian would have the support of a grateful proprietary. (Applause.) Elsewhere there were surprises in the wrong direction; surprise which meant loss of money, disappointment, and vexation; but he could promise the shareholders that as long as Capt. Vivian had the government they would never have these surprises. Seeing the gathering they had there that day, he was led to think that their operations had commanded approval and respect. He was glad to see so many taking an active interest in what concerned the welfare of that district. There was no question that the operations they were carrying on were looked upon with very considerable satisfaction by the outside public, and he believed the result of what they were doing in St. Agnes would be the starting of more mines and the bringing of more capital to St. Agnes district; and the result of the employment of such capital would prove to them and demonstrate to everybody that fact, that much as had been said about mining there mining in St. Agnes was only now in its infancy. (Applause.) They could not doubt it. If any one would only go to Trevannance, they would see a sight which he ventured to say would surprise them. They would see a spot covering not more than five acres which had returned the tidy little sum of 200,000s. profits to the lords who had been working the mine. He should like to know where they would go again and find a result like that. Well, there was an old saying that history repeated itself. They wanted a spirit of enterprise fully and fairly developed, and they wanted investors to be dealt fairly with. They did not want any capital allured to that district which was never likely to be repaid. (Applause.)

Mr. W. COULTER HANCOCK, in responding to the toast, said he had heard New Wheel Kitty spoken of as given the highest promises, and in West Kitty they had something that could be seen, and they could not but feel that ere long New Kitty would be a very great success indeed. During the last 20 years of the working of the mine under the former management large returns had been made, because a large sum of money had gone through his hands as clerk to the late Mr. Newton, the steward to Mr. Bay's lord of the mine, and he had no doubt as they went deeper larger returns would be made. This was only in accordance with what had taken place in other parts of the county. In Wheel Kitty this had already been proved.

Replying to the toast of "West Kitty," Capt. VIVIAN said that up to the present they had done nothing they need be ashamed of. They did not ask for 80,000s. to fork the water out of an old mine, or for 40,000s. as premium money, but to start an engine to work a new piece of ground. They saw they had struck a splendid lode in Wheel Kitty; they had struck at West Kitty; and now they had a little bit of ground further on—New Kitty—and on another piece still further on—West Polbreen. They had altogether about two miles of ground on the celebrated Wheel Kitty lode, and when it was worked he thought they would find it a very great success, although he would not say St. Agnes was confined to one lode. Why should they not have three lodes as well as Redruth and Carn Brea? (Applause.) The St. Agnes district was in its infancy, because there was not a mine more than 100 fms. deep perpendicular, while in the Carn Brea district they were down 350 fms. In Wheel Kitty they had worked a lode for something like 20 years, and now they had got it at West Kitty, and they were going to work it as far as West Polbreen.

Mr. F. W. MITCHELL, in responding for neighbouring mines, referred to the great flat lodes which had been found in St. Agnes, as well as in the neighbour

hood of Carn Brea, and said these would eventually be found to produce great riches in the neighbourhood. At Wheel Kitty they had already paid 60,000s. in dividends. As the mines were developed new lodes would be discovered. The old miners had no idea that lodes would be found in depth there, and those now living might have an idea of what would be found underneath the discovered lodes. There was no district that he knew of that promised better than that which they were now in. They had not only the Wheel Kitty lodes but the Wheel Pink and other lodes.

Capt. WHITE, of Wheel Pevor, also responded, and spoke highly of West Kitty, after having been twice or three times underground.

Mr. W. JENKINS, engineer, bore testimony to the good and cheap engine that had come into the possession of the adventurers, and which had been started that day.

Messrs. KIBBLE and BOWMAN responded on behalf of the visitors. The Rev. J. J. COUSINS, Mr. PAINE, and Mr. DUTTON responded on behalf of the "large shareholders."

Captain FREDERICK said at the request of Mr. Paine he had thoroughly examined Wheel Kitty and West Kitty as a St. Agnes mine, and the best idea they could gather of his opinion of the mine was from the fact that he had unreservedly advised Mr. Paine to take an interest in West Kitty, and the same result followed his observations of New Kitty.

The toast of "The Chairman," proposed by the Rev. J. W. LANE, concluded the proceedings.

PARY'S COPPER CORPORATION.

The ordinary general meeting of shareholders was held at the offices of the company, Finsbury Circus, on Thursday,

Mr. J. Y. WATSON, F.G.S., in the chair.

Mr. F. F. WILSON, the secretary, read the notice convening the meeting, and the reports and accounts were taken as read.

The CHAIRMAN said a supplementary report had been received from the agent that morning, which would be read, and Mr. Wilson, who had just been down to the mine, and had been underground and all over the property, would tell the shareholders more about the boring machinery than he could. They had not got on so well as they could wish, but they were entirely dependent on the price of copper. If they could get a better price for copper they could return double the amount of ore they were now returning. The Chairman then moved the adoption of the reports and accounts.—Mr. WAGSTAFF seconded the motion.

The SECRETARY read the following report, dated the 20th inst.:—

April 20.—I beg to inform you that the boring machines are now in full work and doing very well. I am pleased to say that the machines and everything connected therewith are working satisfactorily. The air compressor keeps up the necessary power required for the machines with the greatest ease, and the drilling is being done excellent. We hope good progress will now be made in extending the 90 south and proving the ground in this direction. The ends driving east and west of the 90 cross-cut contain branches of copper ore of good quality, and looking better than when you saw them on Monday last. The ground, and being a very promising character, and the chances are we may open into a valuable deposit of ore. All other points continue to look much the same, and are going on in the usual regular order.—T. MITCHELL.

The CHAIRMAN added that the shareholders had pressed upon the directors the desirability of putting up boring machinery, but this could not be done until the Colonel's shaft was sunk to the 90 south.

The SECRETARY said he went underground and saw the boring machinery started on Monday last, and it had since worked very satisfactorily. Mr. Dunn, the patentee of the machine, also went underground, having previously instructed the men in the use of the machine at the surface, to see the machine started, and being up to the meeting he had sent up a sort of report, from which it was clear that he had formed a very high opinion of the property. Mr. Dunn said he had finished with the starting of the machine in their great and extensive mine, in which they could scarcely pick up a stone without finding copper in it, and from all the appearances and the nature of the rock surrounding the mine indicated that there were rich deposits in the mine. He believed they had only to push on the work to have good results. They had the best constructed boring machinery in the kingdom, with which they could drive the heading five times faster than by hand labour (the directors calculated upon three times). The men had bored holes from 14 to 16 in. deep in a minute and a half.

Mr. WAGSTAFF asked whether that was done with one drill?—The SECRETARY replied that it was. They had two drills, but the machinery would drive three. Of course there had been a good deal of trouble experienced in putting up the machinery, it had always been believed that the air-pipes would not stand, and this had been a cause of considerable anxiety to the agent.

Mr. WAGSTAFF asked what distance the piping had to be carried?—The SECRETARY said close upon 2000 ft. They were driving with the machine in the 90 cross-cut south, and the end was in a hard sort of clay killas, which apparently corresponded with the clay killas that they had at the top of the open-cut, and being a very fine lode which they worked from the open-cut burrowing under at the 45, and the agent was sanguine of having very good results when they got through the ground where the lode was believed to be. They were driving east and west in two places. They had passed through some small strings of copper, and the stones which had been received and were on the table showed that the ground was alive for copper. The present end would produce about 1 ton of ore to the fathom. The ore shown would dress up to about 8 per cent.

Mr. WAGSTAFF asked what was the percentage of the halvans?—The CHAIRMAN said the halvans were assayed for gold, but they were rather started to find that the copper percentage was 4 per cent. The halvans assayed were not taken from the old heap, but from the stuff that was being thrown away now. They used to sell the halvans at 2s. per ton, but copper was then up to 100s. a ton. If the price of copper went up they could sell any quantity of the halvans. The old halvans had been tested over and over again.

Mr. ARTHUR remarked that the Tharsis Company's ores did not contain more than 3 per cent. of copper.

Mr. BRADY said the Tharsis Company worked the ores as much for sulphur as for copper. Unfortunately, the Parys ores contained a considerable proportion of silica. The Holtz process had not yet been brought to bear on the halvans, but with the advance of science this company would possibly derive great benefit from the treatment of the halvans, of which they had such an enormous quantity raised in heaps. When the copper was at 75s. per ton girls and women were employed at exceedingly cheap rates, and the treatment of these halvans left a profit. The long cross-cut south was getting fast under the open-cut, and the rock-drilling machinery, which had been put up on the repeated recommendations of the shareholders, would, between this and the next meeting, have a very good opportunity of testing the open-cut fairly well. The directors never wished otherwise than to have the rock-drilling machinery, but it was necessary to wait the fitting moment, until the communication had been made from the Colonel's shaft to the 90 ft. level cross-cut, so as to enable them to work with proper economy, for it would have been absurd to put the pipes a quarter of a mile along the cross-cut. No time had been lost in getting the rock-drills, which were worked by compressed air, into operation. Ochre was produced in the mine in very considerable quantities, both in the native state and by precipitation after the copper had been abstracted from the waste water; but they had not been fortunate in selling the ochre, because the demand had fallen off lately, and consequently the price. This was, however, an uncertain kind of market, and although there had been a poor demand for it lately, the revenue might be a little better in six months or a year.

Mr. F. R. WILSON said they had sold 1000s. worth of ochre quite lately, and 400s. worth since the date to which the accounts were made up.

Mr. WAGSTAFF asked how much ochre they had in hand?—Mr. BRADY replied that they had almost any quantity of the raw material; ample for any demand that was likely to be made for it.

Mr. BRADON asked what difference between the present market price for copper—say 60s. a ton—and a higher price would represent the difference between a loss and a profit? Very good discoveries had been made in the Mona Mines, which were very near their property, and he asked whether they had the same?—The CHAIRMAN said the Mona Company had one-third of the open-cut, and the Parys Corporation the other two-thirds. Capt. Mitchell told them that if copper rose to 15s. per unit (it was now about 11s. per unit) he could double the returns, and make a profit.

The SECRETARY, in reply to Mr. HILL, said he believed that the Mona Company were not working so low under the open-cut as this company.

The CHAIRMAN said that in driving the cross-cut several branches had been met with, and they were selling ore from them, but they had never got the great deposit. They were now in very hard ground, precisely similar to what they had been in when they were with the large body of ore above.

Mr. F. R. WILSON remarked that the ore they had bored through was more valuable than what they had had before, and this seemed to indicate that they would have richer ore when they got through it. The machine they were using was the latest and best yet invented. It was simple in construction, and less likely to get out of order than other machinery of the kind.

The CHAIRMAN said they had about a million tons of halvans at surface, a great part of which were believed to be good.

The SECRETARY added that a great deal of the Tharsis returns were made by the wet process, and he believed that this company would do wisely to put up calciners and tanks for treating the stuff. It was satisfactory to notice that the stocks of copper had been reduced in the first three months of the year to the extent of 3000 tons.

The report and accounts were then adopted unanimously.

Mr. BRADY proposed the re-election of the retiring director, the Chairman.

The Rev. A. COOPER seconded the proposition, which was carried.

Mr. HILL proposed the re-election of Mr. Edward Ashmead as auditor of the company.—Mr. WAGSTAFF seconded the proposition, which was carried.

On the motion of Mr. BRADON, seconded by Mr. ARTHUR, a vote of thanks was passed to the Chairman and directors, and the meeting then closed.

MORFA DU MINING COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Finsbury Circus, on Thursday,

Mr. J. Y. WATSON, F.G.S., in the chair.

Mr. F. F. WILSON (the secretary) read the notice convening the meeting. The reports and accounts were taken as read.

The CHAIRMAN said the shareholders would have noticed that Capt. Mitchell said that if the 48 should reach the ore ground, as was expected, they would be able to return the quantity promised—that was 150 tons of bluestone a month. That morning the following report had been received from Capt. Mitchell:—

April 20.—I am pleased to inform you that we have an improvement in the end driving at the 48. The lode began to improve yesterday, and to-day it is looking better, yielding 2 tons of good bluestone per fathom, with every appearance of further improving. The lode in the winze sinking below the 48 is also looking better this week. All other points continue much the same as when you were here.—T. MITCHELL.

They had contracts now in hand, and they had offers for all the bluestone they could raise. If they returned 150 tons per month that would leave them about

100s. a month profit, which would be equal to a 12 per cent. dividend on the capital. He thought the company had really turned the corner. The 48 had now been reached, and it was to be expected that 150 tons per month of bluestone would be returned. Since the last meeting they had sold a little over 600 tons of bluestone, realising 1033s. 13s. 6d., and they had a lot of the stone in stock, which they were now in treaty to sell, in addition to the contracts already entered into.

The SECRETARY said there was another important feature in the mine, that was the chance of getting good copper. The driving by the White Rock shaft was suspended some time ago, because the bluestone raisings were falling off, and as they had a contract on hand, they had to put all the men they could to raise it as fast as possible, and the men were thus taken away from the shaft; but as soon as the bluestone raisings were anything like 150 tons per month, driving in the White Rock shaft would be resumed, and Capt. Mitchell was sanguine of getting a good copper lode at the junction of two strata—the killas and the hard ground that they were now working in. The junction would probably be met with about 30 fathoms from the present end. There had always been a tradition that good copper ore was to be found in the mine, and it was said that an old man had offered for 100s. to point out where there was some very good copper in the sett; but as no one was willing to give 100s. for the chance, the place was not pointed out. The man had been dead for some years, or the company would have been inclined to negotiate with him. They had now about 300 tons of bluestone at surface.

Mr. WAGSTAFF asked if there was any fear of the bluestone working out.—The CHAIRMAN, in reply, said he would like to see it work out and that copper should be found in its place. He had always believed that something very good would be found under the bluestone.

The SECRETARY remarked that bluestone had been associated with copper at Pary's Mountain, and there was no reason why the same thing should not happen at Morfa Du.

On the motion of the CHAIRMAN, seconded by Mr. THANE, the reports and accounts were adopted.

The CHAIRMAN proposed the re-election of Mr. F. R. Wilson, the retiring director.—Mr. COOPER seconded the proposition, which was carried.

On the motion of Mr. HILL, seconded by Mr. WAGSTAFF, Mr. E. Ashmead was re-appointed auditor.

The meeting then closed with the usual compliments.

CARN BREA MINING COMPANY.

A four-monthly meeting of shareholders was held at the account-house on April 14, under the presidency of Mr. W. TEAGUE, sen. There was a large attendance. The statement of accounts was as follows:—Labour cost, 9798s. 7s. 8d.; merchants' bills, 2592s. 18s. 2d.; carriage, 283s. 9s. 7d.; dues, 722s. 0s. 10d.; doctor's pence, 50s. 17s. 7d.; Vice-Warden's assessment, 26s. 10s. 5d.; rates, 69s. 0s. 2d.; income tax, 34s. 10s. 3d.; Cornish Bank, interest, and commission for six months, 181s. 10s.; making a total of 14,059s. 4s. 8d. On the other side there was for 338 tons of black tin sold, 17,748s. 7s. 11d.; carriage of black tin, 56s. 8s. 2d.; discount, 17s. 17s. 9d.; Great Work engine, 58s.; making a total of 17,880s. 13s. 10d., and leaving a profit on the four months' workings of 3821s. 9s. 2d. Last time the balance against the mine was 2114s. 7s. 11d., deducting this from the profit left a balance in favour of the shareholders of 1707s. 1s. 3d.

Mr. THORNE (Liskeard) said he saw that the merchants' bills were a thousand pounds less than last time, which seemed to him a matter of considerable importance. He asked whether that included every liability up to the present?—The CHAIRMAN replied in the affirmative.

On the motion of Mr. THORNE, seconded by Mr. HEARD, the accounts were passed.

The agents (Capt. W. Teague, jun., J. Quintrell, John Daddow, and William Thomas) reported as follows:—

Highburrow Lode: In the 274 ft. level, driving east of Teague's shaft, the lode is worth for tin 30s. per fathom. We have holed the 262, east to Highburrow east shaft, since our last report. In the 250, driving west of cross-course winze, the lode is worth for tin 10s. per fathom. Highburrow east, sinking under the 274, is worth for tin 40s. per fathom. In the 274, driving east of Highburrow east shaft, the lode is worth for tin 50s. per fathom. In the 262, driving east of Highburrow east shaft, the lode is worth for tin 40s. per fathom. In the 250, driving east of Highburrow east shaft, the lode is worth for tin 25s. per fathom. In the 238, driving east of Highburrow east shaft, by the boring machine, the lode is worth for tin 30s. per fathom. In the 228, driving east of shaft, the lode is worth for tin 30s. per fathom. In the 200, driving east of Highburrow shaft, the lode is worth for tin 50s. per fathom. This end is about 60 fms. east of Highburrow east shaft. In the 187, driving east of Highburrow shaft, the lode is worth for tin 16s. per fathom. In the 175, driving east of Highburrow shaft, the lode is worth for tin 12s. per fathom. We have driven the 165, east of Highburrow east shaft through the cross-course; the lode is 5 ft. wide, well defined, and producing some splendid stones of copper and tin. This we consider a very important point, being 120 fms. east of Highburrow east shaft. We have a mile of virgin ground before we reach the boundary. In the 238, driving west of Highburrow west shaft, the lode is worth for tin 20s. per fathom. In the 200, driving west of Highburrow west shaft, the lode is worth for tin and copper 30s. per fathom. In the 187, driving west of Highburrow west, the lode is worth for tin 10s. per fathom.—Druid Lodge, New Shaft: We have completed the new shaft to the 228 since the last meeting, and commenced to drive east and west; the lode is worth for tin 10s. per fathom. The other points (nine) mentioned in the report were valued at an aggregate of 93s. per fathom. The whole of the twenty-three points given in the agents' report were valued at a total of 466s. per fathom.

The CHAIRMAN remarked that the circular convening the meeting called attention to a resolution passed at the last meeting, to consider the propriety or otherwise of subdividing the shares. In that meeting (four months ago) he took no part, but since that time seeing that the opinion generally of the adventurers was that the shares were a little too big and too heavy to carry along, he had used the little influence he possessed in connection with that affair to try to smooth down any places that might be a little rough, and, therefore, he was in a position that day to move a resolution bearing on the sub-division of the shares. He would give them his opinion as to what he thought was reasonable, and he asked them to discuss the matter fully now it was before them. The shares of that mine at present were in round numbers 150s., and he was not going to say whether they were worth or not. There were lots of people who could buy a 30s. share, but a share at 150s. would cost an extra effort. (Laughter.) He would like to have them brought down, so that they could be dealt in at a less amount of money, and he should move a resolution to that effect, and he asked them not to hesitate to give expression to their feelings on the matter. (Hear, hear.) They ought to be unanimous. Notwithstanding the bad times they had passed through, he was pleased to say that the thing had come round to something like right; something as he anticipated it would do. They were met that day under improved circumstances, and hoped they would long continue in that position. He would move that the shares be subdivided, and that in future the mine be in 6000 shares instead of 1000 shares as formerly. (Loud applause.)

Mr. HINGSTON (Liskeard) thoroughly coincided with all that had been said by the Chairman, and he would second the resolution. (Applause.)

This was put to the meeting, and carried unanimously. It was also resolved that a dividend of 30s. per share be declared.

The CHAIRMAN remarked that now they had started with a clean bill of health, it was something to be proud of, and no one was more proud of it than he himself. (Applause.)

A vote of thanks was heartily accorded to the Chairman.

Mr. W. T. DAVEY, auctioneer, of Redruth, then sold a forfeited share in the mine for 137s.

[For remainder of Meetings, see to-day's Journal.]

QUARTZ HILL CONSOLIDATED GOLD MINING COMPANY.—An exhaustive and interesting report on the Kansas Mine belonging to this company has been made by Mr. Ernest Le Neve Foster, M.E. He states that the property is one that has been long and favourably known in the district; that the communications are among the best in the State. From Central City there are wagon roads direct to the mine, affording a good means of transport for supplies, materials, and ore. Supplies, both for mining and milling purposes, can be purchased at fair prices in Central City. The ores produced from the property find a good and ready market. The smelting ores can be sold to any of the smelting companies who have agents and sampling works at Black Hawk, about two miles from the mine. The ores are sampled, assayed, and paid for before removal, and there are plenty of competition among the buyers. The average samples of the smelting ore yield from 3½ to 4 oz. of gold, from 8 to 16 oz. of silver, up to 3 per cent. of copper, and is worth about \$56 per ton in all. The size of the ore vein varies from 6 inches to 4 feet, and would average about 15 inches, and yield about one cord to the fathom. The smelting ore he estimates at 3 per cent. of the total product of the mine, and a fathom of ground taken at a low average shows a value of \$83.75, whilst the cost, mining, milling, &c., included, would be \$67. As to the amount of capital required for developing this property properly and extensively, Mr. Le Neve Foster thinks that it should not be less than 25,000s., though he is of the opinion that 10,000s. would be ample for the first year, and possibly it would be unnecessary to use more, but a surplus working capital should be provided to meet unforeseen expenditures. He believes that with careful and economical management the property can, when fully developed, be made to yield a large profit. The report will be found in another column.

GOLD IN AUSTRALIA.—The statistics of gold mining in Australia furnished in the report of Mr. Hayter, statistic to the Government of Victoria, continue to exhibit a remarkable decline. The quantity raised in all these colonies since deposits of that metal were first discovered in 1851 is estimated at 69,000,000 ozs., valued at 271,000,000s. By far the largest proportion has come from Victoria, where the gold fields in 1879 produced only 758,947 ozs., which is less than half the average annual yield of the same colony in 1870-79.

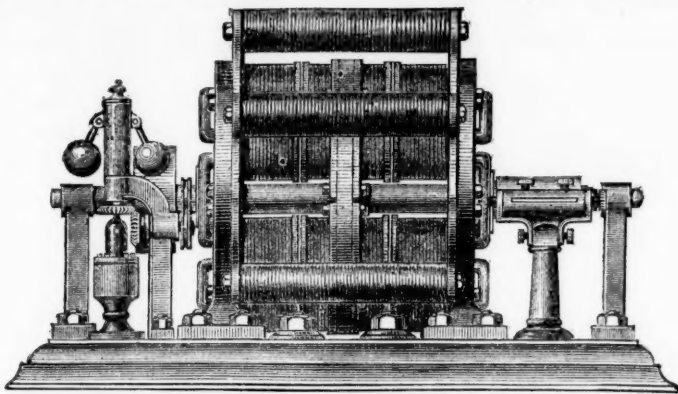
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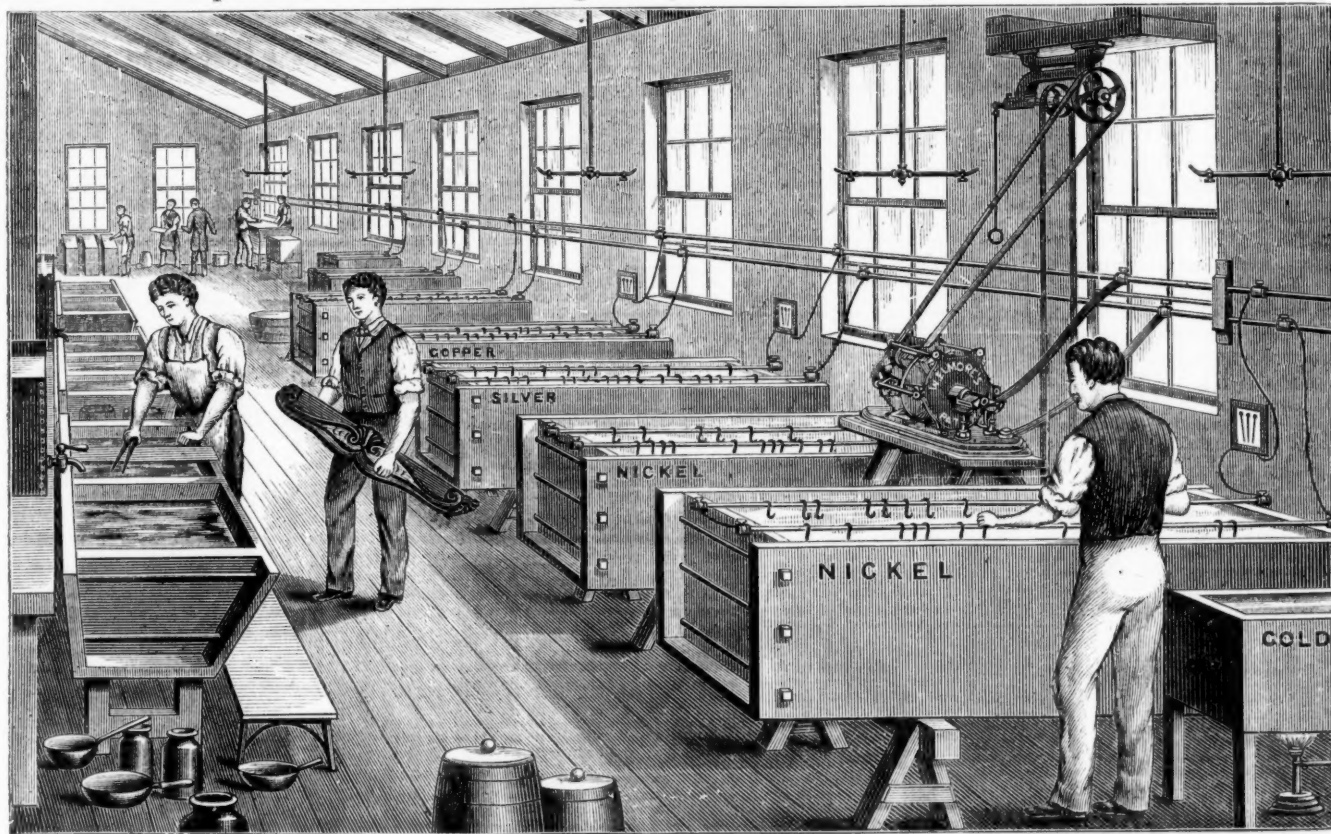
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COMPLETE OUTFITS OR MATERIALS FOR NICKEL-PLATING, SILVER-PLATING, ELECTROTYPING, TINNING, BRONZING, &c.

TO TIN-PLATE MANUFACTURERS AND GALVANIZERS.

The attention of TIN-PLATE MANUFACTURERS AND GALVANIZERS is respectfully directed to the NEW PROCESSES of manufacturing Tin-Plates by depositing the Metal by the current of an "ELMORE'S PATENT" DYNAMO-ELECTRIC MACHINE through aqueous solutions in contradistinction to the old processes of dipping in molten metal.

THE ELECTRO DEPOSITED METAL IS PERFECTLY REGULAR IN character, and the electric current may be so EASILY CONTROLLED as to coat with a MERE FILM OF METAL, OR A DEPOSIT OF ANY DESIRED THICKNESS. The great economy in the cost of plant and cost of production will be immediately self-evident. As nearly the whole of the existing plant can be used in the new process, the cost of altering the system will be comparatively trifling.



The above represents an Electro-plating Works, in which an "ELMORE" PATENT DYNAMO-ELECTRIC MACHINE is being used for the deposition of Nickel, Silver, Copper, Bronze, Brass, Gold, Tin, Zinc, &c., from their Solutions.

From "INDUSTRY."

"By means of the dynamo-electric machine of Mr. William Elmore, the perfection of nickel-plating is obtained. Dynamo-electricity—that is, electricity produced by motive power—presents advantages which cannot be claimed by any galvanic battery known. Not only is the current produced at a far less cost, but it can be so regulated or controlled that the smallest article can be separately coated by a dynamo-electric machine, capable (in its full application) of depositing from 25 lbs. to 30 lbs. of silver per hour. It is a remarkable fact, moreover, that metals can be deposited from their solutions by dynamo-electricity in less than one-third of the time occupied by the ordinary battery in producing the same result. The quality of the deposit, in regard to its smoothness and regular character, is greatly in favour of dynamo-electricity.

"Having had considerable experience in dynamo-electric machines, Mr. W. Elmore has been careful to note the defects and irregularities which some of the less skilfully constructed machines have presented, and thus he has been enabled to produce a really practical and effective machine, of great power, which may be thoroughly depended upon as being capable of giving the most satisfactory results for all purposes of electro-deposition, including gilding, silvering, bracing, nickelling, and electrotyping.

"The advantages of dynamo-electricity in the important art of electrotyping are beyond estimation. When it is known that a fine, clear, deposit (or 'shell') of copper, 800 ft. square feet, can be obtained by a dynamo-machine in less than three hours, without 'pin-holes,' and other defects common to battery deposits, it will be at once seen that the ordinary battery is effectually and unmistakably superseded.

"One of the most useful purposes to which dynamo-electricity can be applied is the production of chemically pure nickel solutions, and salts of nickel, for the electro-deposition of the metal. The vast amount of elec-

tricity generated in a dynamo-machine enables one to dissolve nickel and other metals in their own solvents, far more economically, and in greater purity than by the ordinary method of treating metals. Electrical power obtained by the ordinary galvanic battery would be far too expensive for this purpose. The solutions formed by the aid of dynamo-electricity are not only purely and economically made, but they can be produced in far less time, and with comparatively little trouble and attention. To Mr. Elmore is due the honour of having introduced into this country the process of making pure nickel solutions and salts by means of dynamo-electricity. The boon he has thus conferred upon a large industrial class we need not dilate upon."

From "THE IRONMONGER."

"A still further improvement in the deposition of metals has been recently obtained by the introduction of the dynamo-electric machine of Mr. Wm. Elmore, which is in reality electricity produced by motive power. By this means the current is obtained at a much less cost, and I have seen it regulated to such a nicety that the smallest article could be separately coated in a full-sized vat. The deposit is also effected in about one-third of the time taken by a galvanic battery, and for smoothness and regularity of surface is greatly in favour of the dynamo process, which may be known from the fact that all Mr. Elmore's competitors, both in London and elsewhere, are fast adopting his machine in preference to the old process. He has, in addition, supplied it to many large firms throughout the country for electrotyping purposes, and the reports received from them are gratifying to the inventor. Mr. Elmore is also the author of an interesting little work on the subject, which may be read with interest by those who contemplate entering into what is fast becoming an important industry."

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PARIS, 1875.
BRONZE MEDAL, 1875.

ORDER OF THE CROWN OF PRUSSIA.

FALMOUTH, 1867.
SILVER MEDAL, 1867.

A DIPLOMA—HIGHEST OF ALL AWARDS—given by the Geographical Congress, Paris, 1875—M. Favre, Contractor, having exhibited the McKean Drill alone as the MODEL BORING MACHINE for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

THE MCKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24-90, 27-60, 24-80, 26-10, 28-30, 27-10, 28-40, 28-70 metres. Total advance of south heading during January was 121-30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere ($7\frac{1}{2}$ lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUNNEL; and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

These Machines possess many advantages, which give them value unapproached by any other system of Boring Machine.

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The MCKEAN ROCK DRILLS are the most powerful—the most portable—the most durable—the most compact—of the best mechanical device. They contain the fewest parts—have no weak parts—act without SHOCK upon any of the operating parts—work with a lower pressure than any other Rock Drill—may be worked at a higher pressure than any other—may be run with safety to FIFTEEN HUNDRED STROKES PER MINUTE—do not require a mechanic to work them—are the smallest, shortest, and lightest of all machines—will give the longest feed without change of tool—work with long or short stroke at pleasure of operator.

The SAME Machine may be used for sinking, drifting, or open work. Their working parts are best protected against accidents. The various methods of mounting them are the most efficient.

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11, Parade, Truro, 3rd February, 1881.

MAP OF CALLINGTON, CALSTOCK, AND TAVISTOCK MINING DISTRICTS.
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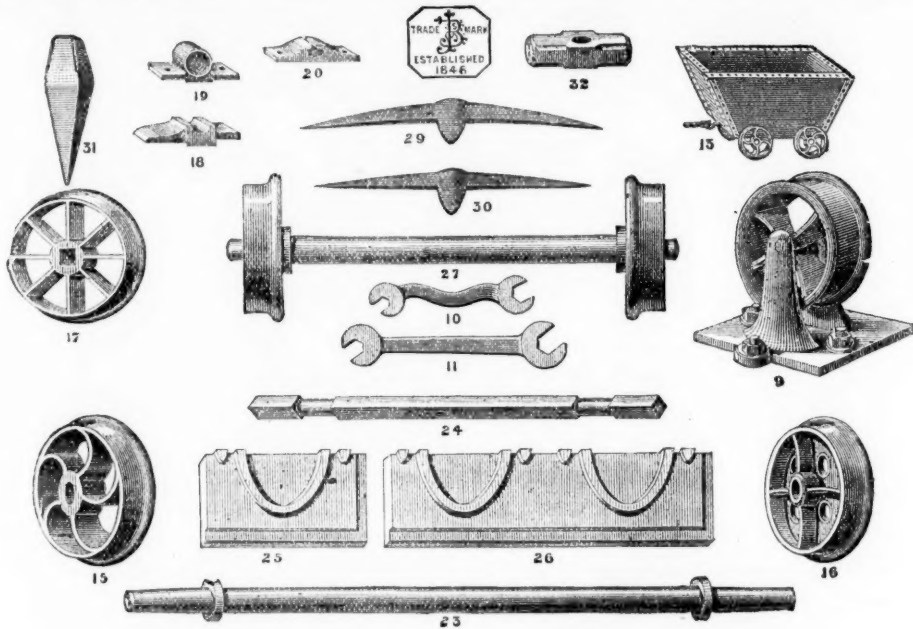
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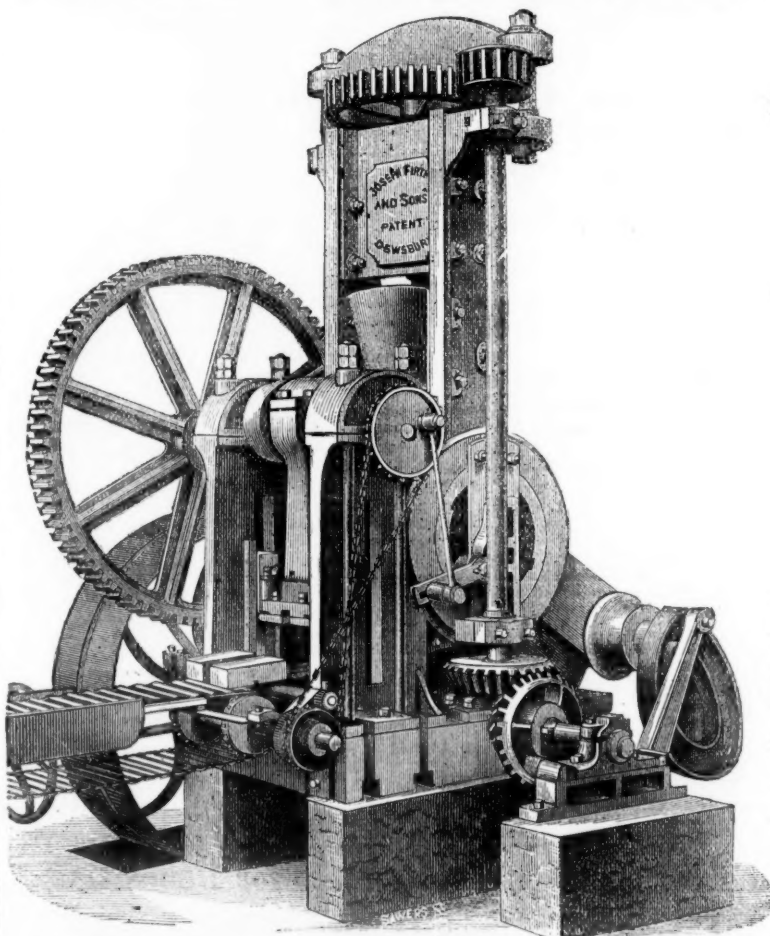
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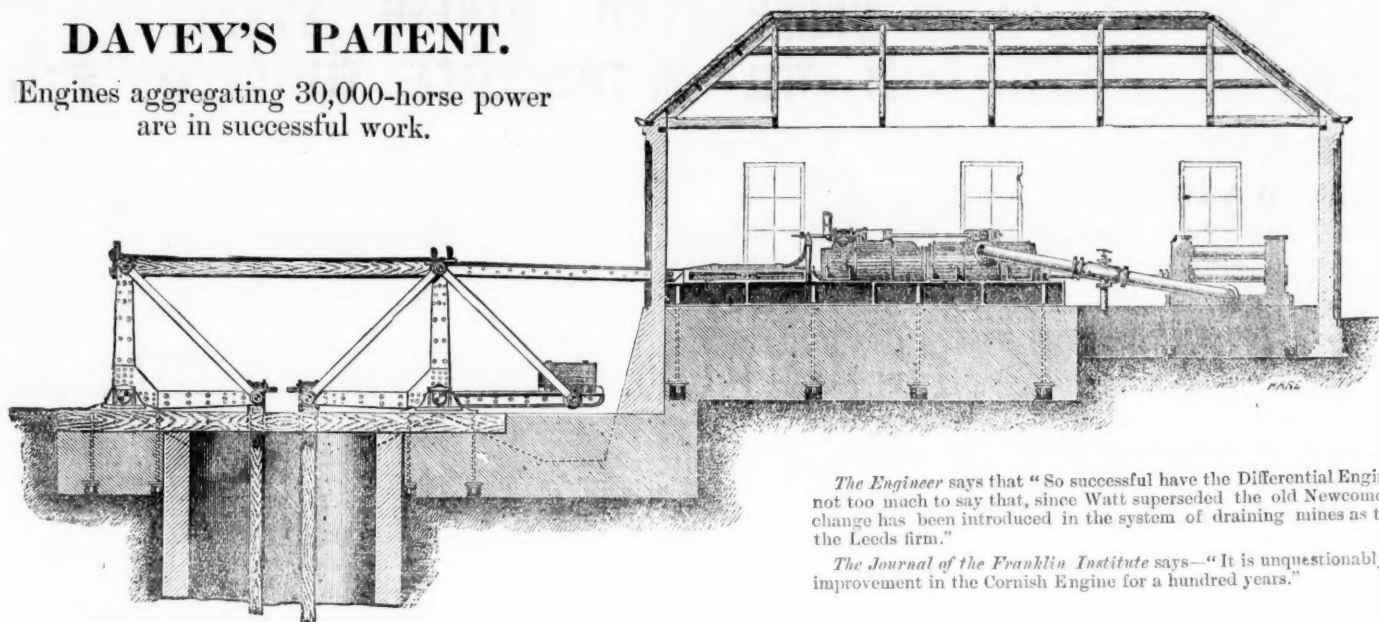
It makes two bricks at once and will make 12,000 to 14,000 Plastic Pressed Bricks per day, hard enough to go direct to the Kiln without drying; or it will make the bricks thoroughly plastic if required. For Works requiring a Machine at less cost the Machine is made to turn out one brick at once, and is capable of producing 8000 bricks per day

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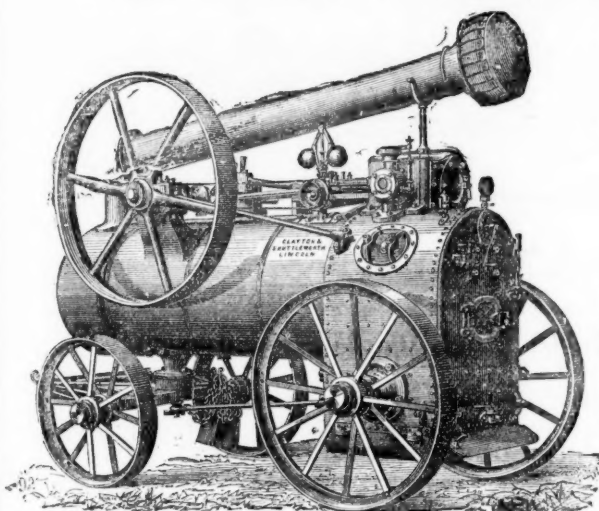
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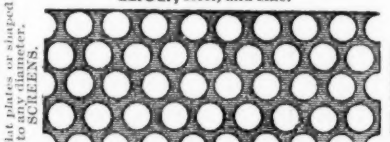
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OVER 2750 IN USE.

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NEW PATENT STEEL TOGGLE BEARINGS.

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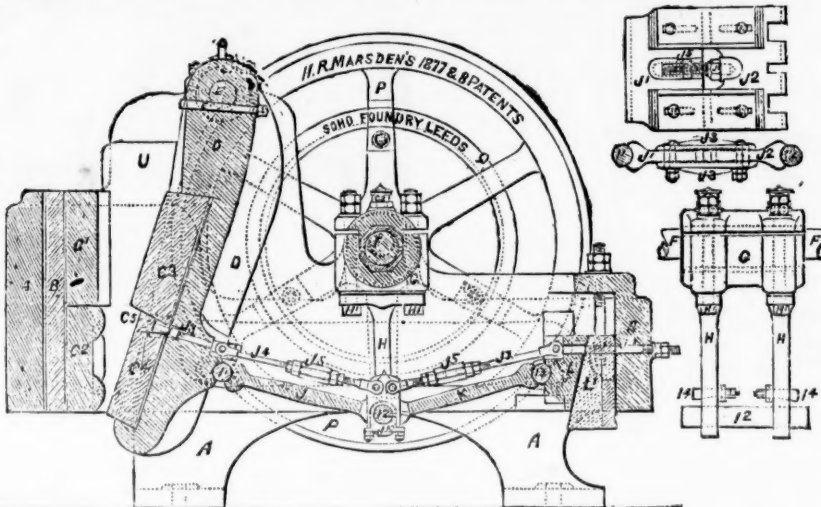
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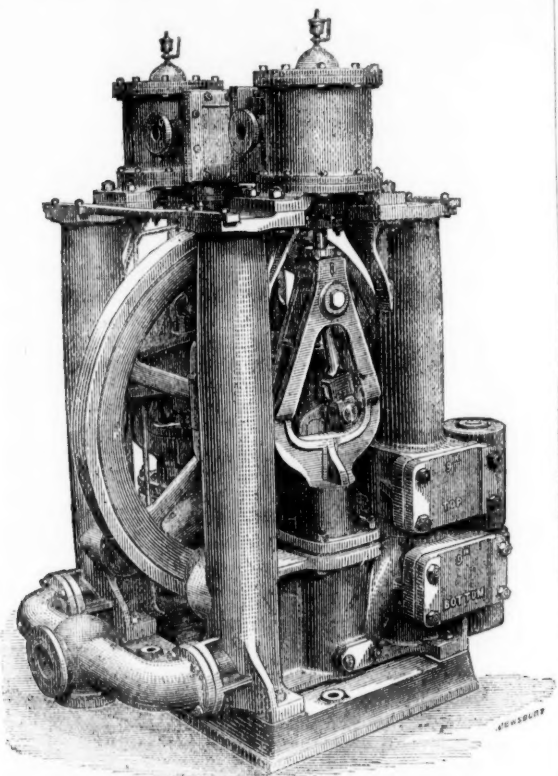


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St. John del Rey Mining Company (Limited).
A SAVING OF FIFTY-FIVE HANDS BY THE USE OF
ONE MEDIUM-SIZED MACHINE.

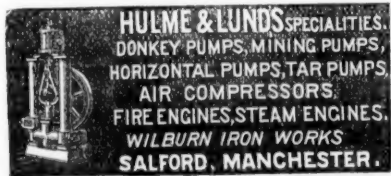
BLAKE'S STONE BREAKER.—Statement made by the Managing Director of the St. John del Rey Mining Company, Mr. John Hockin, with regard to six months' practical working of Blake's Stone Breaker, affording facility for judging of the relative economy of machine and hand labour in this kind of work, and also of the cost of getting the Stone Breaker to work in difficult places. The price paid to Mr. Marsden for the machine referred to by Mr. Hockin was £180, and adding to this the cost of engine, carriage, and fixing, the aggregate cost to the company of the Breaker in working order was £500. By this outlay the company is enabled to dispense with the labour of 55 people, the value of which is £600 per annum. The cost of working the machine could not be more than the wages of about five men (the machine requires but one man to feed it, so that the rest would be for engineer, fuel, oil, &c.), and allowing for interest on outlay and for renewal when necessary, the saving must be enormous.—Mining Journal.



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